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ECONOMIC AND INDUSTRIAL AFFAIRS

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PROBLEMS IN YUGOSLAV-SOVIET TRANSPORT DISCUSSED

Belgrade TRANSPORT in Serbo-Croatian No 6, Jun 82 pp 3-4

[Article by M. Dj.]

[Text] At the end of April this year in Kishinev, Moldavian SSR, the sixth annual session of the Talk Force for Transport of the Yugoslav-Soviet Intergovernmental Committee for Economic and Scientific-Technical Cooperation was held. The agenda of this session included questions from all areas of transportation between the two countries. The special significance of considering these questions is obvious if we bear in mind that the total volume of goods exchanged by the two countries this year reached a sum of more than 7 billion dollars, and that volume is growing in passenger traffic between Yugoslavia and the USSR.

The basis for the position of the Yugoslav delegation to this session was the platform adopted by the Federal Executive Council.

The Yugoslav delegation to this session was led by A. Zvonic, deputy president of the Committee for Transportation and Communications, and the Soviet delegation was headed by V. J. Biryukov, deputy president of the USSR State Plan. The delegations included highly placed officials of railroad, maritime, river, air and highway transport.

Special attention at the Task Force session was devoted to implementing the planned volume of goods transport for last year and the first quarter of this year in individual modes of transportation. In this effort, special attention was directed to measures to eliminate bottlenecks that exist in individual modes of transportation. It was asserted that last year significant improvement was achieved in shipping goods in both directions, and that resulted chiefly from measures taken jointly, a certain amount of redirecting traffic from the railroads to other modes of transportation (maritime, river and highway), and partially as a consequence of using the transit rail line through Romania and at the end of the year, transit routes through Poland and Bulgaria.

Outside that, however, the results achieved were not fully satisfactory. The plan for rail shipments in exports from the USSR last year fell nearly 400,000 tons short of fulfillment. The explanation for this shortfall in planned shipments by this mode of transportation largely is the failure of the shippers to report their shipments on other modes of transportation, but it can also be attributed to shortcomings in organizing transport. Similarly, the planned volume of railshipments for exports from Yugoslavia fell short by more than 200,000 tons. This is primarily the consequence of difficulties at Soviet border stations, as well as of limitations imposed by transit railroads in accepting Yugoslav rail cars, and partially as well of insufficient utilization of other transport routes.

The first quarter of the present year also saw deviations from planned volume of shipments by this mode, although they were less by far. Particularly unsatisfactory results were recorded in exports foom the USSR via Romania. The set volume of shipment was only about 15 percent realized, and this will certainly have a negative impact on timely fulfillment of the planned and contracted foreign trade exchange between the two countries. Keeping these results in mind, agreement was reached at the session that concrete measures must be taken to implement the delayed shipments and dispatches from the first quarter of this year, keeping in mind that greater loading in the second and third quarters must be assured so as to avoid the accumulation of goods for shipment at year's end. At the same time, it was determined that compared to 1980, porcelain clay shipments in the past year were increased by 32 percent, but that is still some 16 percent less than the planned volume of such shipments for 1981, and the Soviet side insists on fulfillment of that plan.

Implementation of the planned volume of shipments in other modes of transportation was somewhat better, although not completely satisfactory, given the available shipping capacity of maritime, river and air transportation.

At the session it was determined that last year the negative trends in river transport of previous years were halted. Shipment of goods in both directions was increased for this mode of transportation by about 7 percent, with export shipping from Yugoslavia being doubled. It was also determined, however, that markedly smaller quantities of goods were shipped from the USSR, so that empty holds and unjustified downriver trips occurred. With this in mind, the Yugoslav delegation stressed the capability of the Yugoslav river shipping fleet to ship an additional 250,000 tons of Yugoslav exports. The Yugoslav delegations also requested that energetic steps be taken shorten the waiting time in port of Yugoslav vessels at the port of Renija on the Danube. The Soviet side also pointed out the long waits of Soviet vessels at Smederevo, and insisted that measures be taken to shorten the port time at that port. It was also proposed that the possibility be investigated of receiving Soviet vessels, according to types of goods being shipped, at the Belgrade and Prahovo ports.

In connection with the concluded agreement between Yugoslav River Shipping and the Danube Lloyd on the one hand, and the Soviet Danube Fleet on the other, for using large container ships between the ports of Belgrade and Izmail, as well as for handling containers in these ports, it was agreed that until mid-year this agreement between the two shipping parties would be treated and signed as an agreement between the two countries for this type of transport.

Maritime shipping of export goods from Yugoslavia continues to be unsatisfactory. The Yugoslav labor organizations in maritime shipping last year accounted for only about 15 percent of the total 7 million tons of goods shipped in both directions. There were about 1 million tons shipped from the USSR and only 2,000 tons from Yugoslavia. The remaining 6 million tons of freight, which included crude oil, were shipped by Soviet maritime shippers and maritime carriers from third countries requiring that shipping fees be paid in convertible foreign exchange. It should, however, also be stated that despite this situation, last year implementation of planned shipments from Yugoslavia by maritime vessels significantly surpassed the target (from 13 to 95,000 tons), while in the first quarter of this year, the planned 73,000 tons were surpassed with a total of 134,000 tons, even though this continues to be an exceptionally small share of this form of transport of goods in trade between the two countries.

Highway freight shipments recorded a marked increase last year, in contrast to previous years. Full reciprocity was assured in terms of the utilization of permits for shipping by road between the two countries. It should be stressed that a preliminary agreement was reached on opening regular highway lines on a Belgrade-Kiev-Moscow route. This service is to be initiated in June of 1982. In the meantime, representatives of highway shippers of the two countries are obliged to resolve remaining questions concerning tariffs and to sign suitable agreements by the end of June.

The situation regarding air shipment of cargo continues to be unsatisfactory, for existing empty capacity is being used very little on regular passenger routes of both carriers. At the session it was once again confirmed that air traffic has the capability of handling up to 5,000 tons of cargo annually as a supplement to regular passenger service. In that connection, the delegations agreed yet this year to utilize the foreign trade organizations of the two countries to direct 2,000 tons of goods to this mode of transport, and with that in mind, a supplement was added to the transportation plan between the two countries for 1982.

Concerning preparations of the Draft Agreement on Container Shipments of Cargo in Direct Rail and Water Traffic, a topic given special attention by the session, complete agreement was not reached, because there are varying viewpoints on principles regarding the very approach to a number of important questions. Therefore, agreement was reached that by the end of the third quarter, a meeting would be held in Yugoslavia between experts from the two countries to reconcile positions on these matters and prepare a suitable draft agreement for the following session of the task force, which will also be held in Yugoslavia before year's end.

As a result of Yugoslav insistence that with the goal of timely and complete implementation of the established volume of trade between the two countries, work be continued on redirecting cargo from the railroads to other modes of transport, the Soviet delegation proposed that during the present year scientific organizations of the countries should become involved in treating problems of improving the distribution of shppping among individual modes of transport. They will also address the technology of shipping bulk cargo and the improvement of service quality in transport.

Without going at this time into a more detailed consideration of the agreements completed for other modes of transport, it is worth noting that outside the established agenda of this session, preliminary agreement was reached for redirecting traffic from the railroads to the Danube for about 600 container shipments of small homes; these shipments are to take place yet this year. The implementation of this transport will require an agreement with Yugoslav shippers of these containers on changes in the mode of transportation and resolution of corresponding tariff, or shipping fee, problems.

At the session the Soviet aide, also outside the official agenda, expressed great interest in the participation of Yugoslav construction interests in the expansion work at the Renija port, where construction of four more docking positions and a certain number of housing units for workers at the port is planned.

The session of the task force took place in an industrious and friendly atmosphere, and the host's treatment of the Yugoslav delegation was exceptionally constructive and cordial.

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SOCIALIST FOUNDATION OF ECONOMIC DEVELOPMENT STRESSED

Tirana RRUGA E PARTISE in Albanian Jun 82 pp 28-40

[Article by Munir Como: "Basing Economic Development on the Economic Laws of Socialism--A Necessity and an Ever-Increasing Demand]

[Text] Our workers party, by implementing in a resolute manner, the teachings of Marxism-Leninism for the socialist construction of the country, has continually pursued an economic policy which is built upon and reflects, always correctly, the demands of the objective economic laws of socialism. It has worked, carefully, so that these demands would be known and carried out in the entire economic-social activity and, at the same time, it has fought all manifestations of voluntarism and subjectivism.

By relying on the demands of the objective economic laws of socialism, and by always carrying them out in unity, in accordance with the level of development of the productive forces and with the level of maturity of socialist relations in production, with the level of consciousness also attained through the experience amassed, our party has worked out and carried out an economic policy with a profound scientific substance. On this basis, there have been secured the increase, at rapid rates, of social production, of national income, of the employment of the new labor force, the raising of the level of the material and cultural well-being of the workers and the consolidation of the defense capacity of the country.

The knowledge of the demands of the economic laws and their resolute implementation under our concrete conditions has ensured the creation and consolidation of our modern and diversified socialist industry based on the country's raw materials; it has ensured the creation, consolidation and progress of socialist agriculture which guarantees the feeding of the people with its own products, it has created and expanded the types of necessary social services, and so forth. "The special character of socialism--Comrade Enver Hoxha teaches us--lies in the conscious knowledge and use of these laws in accordance with the objectives of the party and the socialist state. Herein lies one of the great superiorities of the socialist system, which ensures a harmonious and rapid development of the economy and culture for the benefit of the working masses" (Enver Hoxha, Report to the Eighth Congress of the AWP," p 112-113).

The Marxist-Leninist political economy teaches us that the demands of the economic laws are manifested and realized through the economic-social activity of the workers. Therefore, the knowledge by all, and in particular by the leading organs of the party and of the state, of the demands of these laws is of special importance and constitutes a necessity for the regulation, in a planned and conscientious manner, of the economic processes and impressions in order to understand and correctly implement the content of the economic policy and directives of the party.

In socialism new factors arise and act which influence the knowledge and harmonization of the various economic-social activities in accordance with the demands of the objective economic laws of socialism, with the principles and criteria which emanate from them. Only in the communist society K. Marx teaches, is there realized a fundamental transformation in the field of relations in production, and society, for the first time, views all the premises produced in a conscientious manner.

The level attained in the political, ideological, economic, social and technical-scientific development in our country has created conditions for the acceleration of the rates of development and production, for the further perfecting of socialist relations in production and for the increase of the well-being of the working masses. However, transforming this possibility into a reality is closely connected with the deepening of knowledge concerning the demands of the economic policy of the party in which are concretized and embodied the demands of the economic and objective laws of socialism. "In the present conditions--Comrade Enver Hoxha teaches us--when the economy has become a large-scale and complex economy, it cannot be managed and furthered with outdated concepts and practices. It is no longer possible to work on the basis of narrow empiricism and practicism. Management and organization must be based on profound knowledge and sound scientific criteria arising from the laws of economic and social development" (Enver Hoxha, "Report to the Eighth Congress of the AWP," p 57-58).

It arises from this conclusion of the Eighth Party Congress that, at the present level, the deepening of knowledge about the demands of the objective economic laws, becomes an ever-increasing necessity and demand. This is conditioned by a series of factors with a political, social and economic character.

First, the level attained in the development of production forces and in the improvement of socialist relations in production has created real conditions for us to base ourselves on the demands of the economic laws so as to accelerate the rates of development and of the consolidation of the material-technical base of socialism. This is also shown by the experience of the past 20 years, during which the social production and the national incomes have increased at an average annual rate of about 6-7 percent, or 2.6 times faster than the rate of the population growth of our country. New branches have been created in industry. It has been equipped with an advanced technology and the structure of industrial production has changed and continues to change. The process of intensive development of all the branches of the economy is continuously deepening by fully relying on its own forces.

Second, the development of the economy and of culture during the Seventh Five-Year Plan period, the tasks which are laid down to increase labor productivity and the effectiveness of the economy, the deepening of the process of the socialization of collective ownership in the village, the increase of the level of concentration of production, the broadening of cooperation and of coordination of production activities between the branches and within them, between the districts and the enterprises, the state and the cooperatives and so forth, make it even more urgent to base all activities on the demands of the objective economic laws of socialism.

Third, the deepening of the technical-scientific revolution is accompanied not only by the development of material elements of productive forces, but also by the development and perfecting, in a revolutionary manner, of the socialist relations in production. Under these conditions, the economic laws, which express relations in production, act with an ever greater force. It is, therefore, important that there be a deep knowledge of their demands and their implementation in accordance with the changes resulting from the process of the development and of the deepening of the technical-scientific revolution in our country.

Fourth, under present conditions, when our economy has become a big complex economy, the scientific management of the economy is realized only when the problems of the development of the productive forces are always viewed closely in relation to their social aspect, with all the components which constitute our socialist life.

Fifth, the overall economic development, and especially, the improvement of socialist relations in production is closely related to the education and the formation of the new man with the norms of the communist morality. Without ensuring the overall education of the working masses, without fully affirming in their conscience the socialist attitude regarding collective work and ownership, without equipping them with the skill of management, the laws of economic and social development cannot be carried out correctly, nor can the alien manifestations in the field of the economy be fought, in particular the manifestations of subjectivism and of voluntarism which are observed, in some cases, in the solving of some problems of production, exchange and distribution.

Today, our economy possesses a powerful material-technical base, the production capacities are continually being expanded and the intensive development of all its branches is deepening constantly. Also, relations of cooperation between the branches of the economy, between all the aspects of expanded socialist reproduction, are developing in ever greater proportions. Comrade Enver Hoxha teaches us that not only must we know these relationships and processes but we must also act in a proper manner and with strict scientific discipline so as to develop and guide them for the purpose required by our socialist society. Under these conditions, the coordination of the demands of the economic laws in all the economic-social activities becomes of special importance, by always taking into consideration the demands of the fundamental economic law of socialism, especially the fundamental relationship between the aim of production and the means to achieve it, from which originate all other relationships in the socialist economy.

Our workers party has taken into consideration and has correctly carried out these essential internal relations, by placing at the center of attention the working man with all his needs and demands. This has been and remains the objective of the plans of economic and cultural development, this is embodied also in the recent decision of the Council of Ministers on the new decrease of retail prices of some consumer goods and the lowering of the rates for some communal services, resulting in benefits of 75 million leks per year for the workers.

The party has based and bases the continuing improvement of the general well-being of the working masses on the overall and harmonious development of material production and social services, by giving top priority to the demands of the objective economic laws, the criteria which arise from them, the Marxist-Leninist principle of self-reliance. The uninterrupted development of the production forces and of social production have created conditions for the intensive development of the economy and the taking of many measures in the interest of the working masses and for the ever-better fulfillment of their material and cultural needs.

The carrying out of the demands of the economic laws in proportion to the level of development and in harmony with the long-range trend, is connected with a number of issues from the knowledge and the establishment of the demands of the economic laws of socialism, and up to the coordination and their correct implementation. The economic laws appear and act through the activity of the people in the processes of production, in the exchange and distribution of material goods, therefore their knowledge and implementation are organically related to the knowledge of all the relationships which the people carry out in these processes.

However, in practice, we still encounter, from time to time, cases of narrow opinions, mistaken concepts, which separate the theoretical aspect, the demands of the objective economic laws, from the concrete economic-social activity of the branch, of the enterprise, of the cooperative, from the scientifically based organization of social production, of the whole economic-social activity. However, "shortcomings in general and theoretical formation inevitably lead, also, to subjective and voluntaristic concepts which come into conflict with the demands of the objective laws, affect the scientific management of work, check and distort the development of socioeconomic processes and harm the education of people" (Enver Hoxha, "Report to the Eighth Congress of the AWP," p 111).

Both the deepening of the knowledge of the demands of economic laws, and their coordinated implementation in the concrete management activity, constitute a permanent task for the planned regulation of the economic-social activity, of the relations between the branches and the enterprises of the people's economy. It is important in this coordination of the demands of economic laws of socialism, because, in their demands, the concretization of socialist relations in production is found. In this context, the fundamental economic law of socialism which determines the root of relations between the branches of the economy is of special importance. All other relations and associations are built and realized in organic manner for the purpose of socialist production and the means to achieve it.

Of course, the special attention given to knowing and to strictly carrying out the demands of the specific laws of socialism does not mean that the demands of the universal and intermediate laws must be ever better taken into consideration, but always in accordance with the characteristics which they assume in socialism through the planned implementation of their demands, by coordinating, carefully, with the demands of the specific economic laws and by always placing them in the function of the organized and planned development of our socialist economy. Within this framework, by relying on these basic criteria the demands of the economic law of socialism are established, coordinated and carried out--for example, the relationships between the fundamental economic law and the law on the increase of productivity, the establishment and the reflection of the proportions not only in natural indicators, but also in value indicators, the establishment of correct relationships between the product itself and the buying power of the people and so forth. All these are made concrete in the plans of the development of the economy and of culture, in the component parts of the single state plan, in the plan production plan and financial plan of each branch, sector and basic unit of our people's economy.

In this respect, we find the demands of the economic laws of socialism coordinated better than any other time in the Seventh Five-Year Plan. This is also one of the reasons why the achievements in the fulfillment of the plan tasks in the complex of the indicators and proportions necessary for 1981 and for the first half of the current year are better than ever before. But, as the Eighth Party Congress stressed, the struggle for the fulfillment of all the indicators remains an important and permanent task. The fulfillment of the plan for all articles, for all assortments, in kind and in value, is the most important thing in maintaining the essential ties, the relationships and proportions. The various relationships between the demands and the laws, as a result of the many proportions, on the basis of which the process economic-social activitv is regulated, both in terms of the economy as a whole and in every basic unit of socialist production, in particular, have been coordinated and embodied in the fundamental task of the Seventh Five-Year Plan.

In order to put into practice this fundamental task of the Eighth Party Congress, a great work has been done and is being done, in particular, to form correct opinions about these problems, to overcome the difficulties of growth and to mobilize and use profitably all the resources of work, the material base and the financial resources, by combatting, in this manner, the manifestations of voluntarism and of subjectivism. However, in the present stage of development, when the process of the social division of labor has reached a degree of development and is constantly deepening, and when the specialization of the production activities is deepening in all the fields, the improvement of the relations of the change of activities through cooperative relations, becomes especially important and exercises a great influence in the coordinated implementation of the demands of the economic laws of socialism. This way alone enables the implementation of the tasks established by the Seventh Five-Year Plan in order to synchronize the work of dozens of plants, of economic enterprises and of agricultural cooperatives, in order to correctly solve the problems which arise from the development of industry, of agriculture and of the other branches, and in order to implement broadly the progressive science and technology in production. It is for this reason that, as the party stresses, the struggle against the negative manifestations which are observed in this direction and which hinder the objective process of the coordination of production activities, is applied more completely and with greater determination.

The elimination of shortcomings and mistakes which continue to be noted in this field cannot take place by itself, nor through partial regulations and less so, through outdated and empirical practices. Their elimination requires, above all, the creation and consolidation throughout of profound understanding and convictions about the importance of the broadening and perfection of economic relations and the opposing of narrow understandings and tendencies to underestimate this issue. It is of special importance to understand correctly the danger of the manifestations of departmentalism and localism, of isolationism within the enterprise or branch, by producing everything itself, without properly taking general interests into consideration and without thinking about the effectiveness of production. These types of concepts and practices, if not fought, become a hindrance for the implementation of new progressive technologies, for the implementation of organizational and technical measures which influence the reduction of costs, the improvement of quality, the raising of labor productivity, the fulfillment of the plan in all indicators.

Thus, for example, our machine industry has entered a new stage of development, the production of various types of machines and equipment. A good job in this direction has been done especially during the past 3-4 years, by designing and producing hundreds of types of machines and equipment needed to build various projects. The decisions of the Eighth Party Congress have provided further impulses in this work. New initiatives which support the fulfillment of the tasks of this 5-year plan period and which create other long-range possibilities, have been undertaken by many work collectives. It is evident that the problems which arise are many and more complicated because it is necessary not only to design and to produce machines according to the demands of modern technology, but also to design and to produce machines according to the demands of modern technology, but also to avoid unnecessary analogies. The experiences of the workers of the "Enver Hoxha" auto-tractor combine in proceeding to technological production is the best proof of this. This experience shows clearly that this ensures the increase of a number of indicators, such as the raising of labor productivity, the shortening of the cycle of technical preparation and of the deadlines of the assimilation of new parts, and so forth. But this requires the perfection of planning, concentration and tendencies to acquire from each plant everything from molded and cast semi-products to all types of tools, tendencies which reflect artisan concepts and practices and compartmental and localist attitudes in treating these problems.

The coordination of the demands of the economic laws of socialism has been best concretized in the directives of the Eighth Party Congress about the rates of the increase of the social product, of national income of the funds of accumulation, and so forth, as well as of the proportions between them. The increase, in the Seventh Five-Year Plan, of the social product at an average annual rate of 6.5 percent, as well as the increase of the social product and of the national income at a rate of 2.8 times faster than the rate of population growth, are the principal synthetic indicators which characterize not only the vitality and the dynamism of our socialist economy, but also its harmonized development in accordance with the objective economic laws of socialism.

The tasks for the increase of the social product of the national income have at their foundation the activation of such factors of development which are related both to the increase of the number of workers in the sphere of material production and to the increase of labor productivity and the reduction of production expenses. The proportions in the distribution and in the use of the national income have been set in accordance with these tasks.

The party has paid special attention and continues to pay attention to the distribution of national incomes, the maintenance of correct proportions between the individual product and the social product, by always taking into consideration and carrying out the principle of the priority increase of the social product in comparison with the consumer fund. But in the framework of the implementation of this principle, the increase of the individual product which the workers realize in the sphere of social production, has never been ignored. Thus, for example, it is expected that in 1985 against 1980, individual production will increase about 23 percent, at an average annual increase of 4.3 percent.

Experience has proven that the establishment and the maintenance of correct relationships in the use of the social product is of special importance. The laws on the development of socialist reproduction require that priority in the use of the social product should be given to the part which is directed to the expanded reproduction and then to that which is required for the satisfaction of the common needs of the society and, finally, to the part which is destined for the workers in the nonproductive sphere. Therefore, in this 5-year plan period, it is expected that 55 percent of the social product will be destined for the expanded reproduction. In 1985, in comparison to 1980, this part of the social product will increase more than 60 percent, whereas social consumption will increase 28 percent and individual consumption, 21 percent.

The preserving of these correct proportions in the use of the social product depends, in the first place, on the fulfillment of the planned tasks for the increase of production, for the increase of labor productivity, for the rational utilization of the existing productive capacities, for the highly effective use of the planned investments and so forth.

As a result of the work which has been carried out especially during these past few years, a considerable improvement in the work for the fulfillment of the plan in all its indicators can be noted. Thus in 1981, in comparison to the fulfillment of the tasks for the increase of production, the income of the state budget was fulfilled and overfulfilled. Most of the enterprises fulfilled the economic-financial indicators. But there are also those which created deficits. For example, 80 percent of the enterprises of the Ministry of Industry and Mines, surpassed the planned net income, whereas the rest, 20 percent, did not fulfill them. A different picture of results is noted also in construction and agricultural enterprises, and so forth. The causes are entirely of a subjective character. There are still some cadres and workers who do not correctly understand the importance of the net income of the enterprise in socialism, the manner of accounting, of planning and of plan fulfillment. As a result, the efforts to avoid losses and subsidies are insufficient. The poor evaluation of issues of profitability is also the source of the mistaken tendency which is noted in some agricultural cooperatives in which expenditures increase at a higher rate than the net income.

Misconceptions are also noted among some cadres in connection with the reduction of costs, with the concrete factors which exert influence in this or that enterprise for the steady reduction of the cost. In this field, there are problems concerning a more scientific planning of the cost and also, the pursuit of the fulfillment of the plan for expenses of production, construction and circulation. Thus it is noted that in some enterprises, the reduction of the cost has been ensured not so much as a result of the work and of the measures to strengthen the regimen of thrift, but more as a result of the influence of external factors and especially of planning with reserves in production expenditures. It happens therefore, that in such enterprises, although the tasks of the plan for increasing production are not fulfilled, the planned tasks for the reduction of costs are surpassed. For example, in the oil extraction enterprise in Vlore, the expenditures plan was artificially "inflated," in order that it could be easily fulfilled, even under the conditions of the nonfulfillment of the set tasks. This type of practice leads to euphoria and self-satisfaction and hinders the true struggle which must be carried out for the reduction of the cost and for the increase of the effectiveness of production as a whole.

The analysis of the plan of reducing costs according to its component parts and elements, constitutes an important aspect of scientific planning. The reduction of costs means in the first place, to conserve the main and auxiliary raw materials, to conserve electric energy and fuel materials, to increase labor productivity, by viewing them separately for each article of production and always in accordance with the new conditions and possibilities which are created. However, this is not taken into consideration always and everywhere. For 1982, parallel to the good work done by a considerable number of enterprises for the planning of production expenses in a thrifty manner, in some other enterprises attitudes of globalism and onesidedness in the execution of the plan of reducing costs continue to be manifested. For example, the food enterprise in Shkoder, due to the lack of studies on the reduction of the norms for the use of raw materials and of materials and for raising the labor productivity, 50 percent of the cost reduction plan has been scheduled under the cost category "expenses of the department" and "general expenses of the enterprise."

The Eighth Party Congress reiterated the need for relying on the demands of the economic laws of socialism in all the managing activities of the state and economic organs, by resolutely fighting, and on time, all manifestations of subjectivism and voluntarism, with which, as Comrade Enver Hoxha stresses, "we are confronted quite frequently, but in the planning, organization and management of the economy in particular they are more evident and more harmful" (Enver Hoxha, "Report to the Eighth Congress of the AWP," p 112).

Practice shows that in order to carry out a successful struggle against the manifestations of voluntarism and subjectivism, it is necessary to know profoundly the demands of the economic laws of socialism, and also the forms of the manifestation of voluntarism and subjectivism, such as the underevaluation of the objective character of the activity of the economic laws of socialism and of the necessity of coordination and execution in a unified manner of their demands, globalism, onesidedness, empiricism, practicism, baseless euphoria, complacency, underevaluation of progressive experience, and so forth.

Thus, for example, voluntarism in some cases finds its expression in the superficial work which is carried out during planning. As a result of inadequate knowledge of the demands of the economic laws of socialism, there have been also cases when the many relations of expanded reproduction of socialism are not taken into consideration sufficiently during the work for the drafting and approval of plan tasks, or of the reciprocal obligations which arise from the single general state plan, by treating them in some cases as optional tasks. As a result, there have also been liberal attitudes, spontaneous acts, and, in some cases, even opposition to the various rules and laws.

The superficial work is also the source of those attitudes of some economic organs at the grassroots level, which plan minor tasks for the increase of labor productivity. The superficial treatment of this problem is noted especially in the lack of harmonization between the increase of the labor productivity and the fulfillment of the work norms, between the increase of the individual product, in form of salary, and the increase of the social product. Thus, it is known that one of the main factors for the increase of labor productivity is the scientific norm-setting for work, the fulfillment and overfulfillment of norms by all the workers. However, the perfection of the work norm process cannot occur only on the basis of empirical knowledge or by relying only on some statistical data.

The norms for work-time, for use of materials, for loading of machines and so forth, scientifically based, are absolutely necessary to plan on scientific bases, to measure, judge and control the economic-productive activity and the fulfillment of the plan frontally in all the economic-financial indicators. On the basis of the fulfillment of the norms for work-time, there are put into practice not only the demands of the law of remuneration according to quantity and quality, but also number of other laws. Without a scientific norm we cannot have scientific planning, there cannot be a correct proportion between the increase of labor productivity and workers' salary, as well as a number of other proportions necessary for the harmonic development of the economy.

It is a fact that in the work for the perfection of norms, some shortcomings of voluntaristic character have been overcome, yet we still encounter here alien concepts which hinder the establishment of norms on scientific bases. Thus, for example, we encounter the concept that "not every work process can be normed," or "there are and will be also processes and activities without norms." but there are also cases when the norms are established, in a mechanical manner, not viewing them in a dialectical unity and in harmony with the fulfillment of the planned average salary.

The issue is that the norm-setting should, in all instances, be carried out in accordance with the demands of the economic laws of socialism, of the fundamental economic law, of the law on planned and proportional development, of the law on the uninterrupted increase of the labor productivity, of the law on thrift, of the law on socialist accumulation and of the law on remuneration according to the quantity and quality of work. Otherwise, the danger exists of taking onesided positions and making incorrect evaluations of the essential indicators of work, and engaging in routine and spiritless activity to avoid those shortcomings which are noted in the work for the perfecting of norms, such as, among other things, the slow procedure to establish the work norms in a number of processes in which workers continue to work without norms, in the expansion of the work with technical norms, in the unification of work norms within the same branch, in the unification of the norms for the use of materials for the same product in enterprises with the same conditions and so forth.

Such manifestations are also encountered in some cases in the work which is done for the utilization of internal reserves which our socialist economy possesses and creates continually. Some cadres, by proceeding on the basis of the mistaken concept that "we know the internal reserves, we have them here, and regardless of whether we plan them or not, we have them for our use," do not show the necessary concern for their full utilization in a planned manner and according to the concrete qualitative indicators of the plan. These types of attitudes cause manifestations of subjectivism and spontaneity in the mobilization of internal reserves, do not stimulate the creative thinking of the working masses, weaken the demand of accountability for the utilization of internal reserves, conceal the shortcomings of organizational and management work of some cadres, who by having unplanned internal reserves, use them to easily fulfill the tasks under all conditions.

But no matter how real the plans may be, no matter how well they may reflect the demands of the economic laws of socialism, the important thing is to take into consideration these demands in the execution process, something which finds its concrete form in the fulfillment of the tasks of the plan in all the indicators. It is a fact that as a result of the work which the party has carried out and carries out, in general, the fulfillment of all the indicators of the plan is correctly evaluated and there are ever better achievements. This is also shown by the results of 1981 and of the first half of 1982. Nevertheless, in some cases there continue to be noted onesided evaluations of the economic-financial indicators and nonfulfillments in some indicators which create anxieties and obstacles in the coordination of the activities, in the fulfillment of the needs of the economy and of the working masses. Thus, for example, in the extracting and processing industry, the regular fulfillment of the plan requires the respecting of some permanent internal relations between production, preparatory work, research work, undiscovered reserves, the readying and putting into operation of work fronts, and so forth. But, in some mines, one also notes subjectivist evaluations of these essential relations. This is expressed in some cases where there is a breakdown in the relationship between the rate of the advancement of mining works, the organization of work, the putting into operation of work fronts and their equipping with the necessary means and mechanisms. As a result, the plan is not fulfilled in a regular manner during all the months of the year, thus hampering the timely transportation of the minerals.

Onesided manifestations are noted also in the distribution of the goods produced. There are cases when the production plan is fulfilled and overfulfilled, whereas the distribution plan, due to organizational weaknesses, due to abnomalies in transportation and due to slowness in processing and dispatching the products to the consumers, is not fulfilled. This has its source, among other things, in the indifferent attitudes of the producers in regard to the distribution of products, producers who do not show sufficient responsibility in insuring that the product reaches the consumers on time, in the quantity, assortment and quality planned. As a result, the necessary care is not shown for the regular fulfillment of the production plan, according to the assortments and quality planned, and for the distribution according to contracts. But the nonfulfillment of the distribution plan applies also to those shortcomings in the transportation of products, to the inadequate care which the specialized organs show for the circulation of goods and products. The attention of these organs has been called to inadequate efforts on their part to deliver the products to the consumers on schedule, and to implement contractual tasks.

Life shows that when the problems are treated from the viewpoint of the general interest of the economy and not from that of the narrow interest of the ministry and enterprise, when all the links of organization and management of work has felt the full responsibility for the established tasks, the results have been positive. The possibilities exist for everything which is produced to reach its destination, within the established schedules, if the tasks are understood and are properly carried out by all, if the liberal attitudes, mutual concessions, which are observed in some cases, and so forth, are fought.

One of the forms of the manifestations of subjectivism is also the judging and evaluation of the productive activity in global terms. It is true that manifestations of globalism have been and are being continually fought, and that the economic enterprises and agricultural cooperatives are currently better pursuing the fulfillment of the plan in kind and in value, in all the quantitative and qualitative indicators of production. Still, there are also cases when excessive emphasis is given to the production of some goods which are more in demand and which carry weight in the plan fulfillment in value, or which belong to the nomenclature of the central organs, whereas the production of some so-called "small," or "tiny" products which are produced in a relatively limited quantity, does not receive the necessary attention and, as a result, their plan is fulfilled in an unsatisfactory manner.

Manifestations of globalism are also encountered in the field of the evaluation and generalization of progressive experience. In some cases, good experience is viewed and treated in a general manner, by dealing with some achievements, but without uncovering the factors which have led to those good results, the difficulties which have been overcome for the implementation of the scientific data, the work which has been done to raise the level of knowledge of workers and to place them in the service of production.

In order to fight the manifestations of globalism in the management of the economy, better use must be made of the economic-financial analyses of the activity of the enterprise, of the agricultural cooperative, of the branch and so forth, which, when well organized and thorough, help to reveal development trends, the positive experience, but also the shortcomings and the unused reserves, which greatly influence the perfecting of the scientific management of the economy.

Euphoria and complacency are also forms of the manifestations of subjectivist attitudes. Unjustified euphoria is the result of the profound ignorance of prospects for development and arises from the petit-bourgeois idea that "we have results" that "we are in a better position than the others," not taking into consideration the fact that our socialist system of the economy constantly creates new conditions and promotes the creative initiative to launch and to realize ever greater tasks. It is important, as the party teaches, to properly distinguish between euphoria and revolutionary optimism. Revolutionary optimism knows, supports and utilizes the factors and the possibilities which our socialist order creates, leads one to establish mobilizing tasks, serves to perfect the organization and management of work, to develop socialist emulation through concrete objectives, to launch and strongly support revolutionary initiatives, etc.

Without fighting foreign concepts and attitudes with determination and with a class spirit, Comrade Enver Hoxha reminds us one cannot talk about fundamental and qualitative improvements of products, about the reduction of waste and shortcomings, about being thrifty everywhere and in everything. The intensification of the struggle against them is required by the level achieved in our economic and social development, by the situations in which we are building socialism, the capacities of our economy to take a new qualitative step on the road of intensive development. The fulfillment of the plans and the improvement of the quality of products takes on special importance to put into practice the decision of the Council of Ministers of the People's Socialist Republic of Albania to reduce the prices of some consumer goods and of some types of communal and repair services. The price reduction takes place under conditions when our socialist market, as always, is supplied with a quantity and variety of consumer goods. It is important that the working masses, by being in the positions of the producer and consumer, make pledges to discover new reserves, to strengthen the savings regimen, to increase the effectiveness of our people's economy as a whole, which also constitute the bases for the reduction of prices, for the increase of the real income of the workers.

The level attained, the many tasks which arise in the development of the economy and culture, make it always necessary to expand knowledge about the demands of the objective economic laws of socialism. Only in this way, will every activity be executed, be it technical-productive or economic-social, in accordance with these demands, with the principles and criteria which arise from them and which express the internal links of the process of the socialist development of the economy. Therefore, the work for the knowledge of the demands of the economic laws of socialism must be constant, and general and must be continually expanded. In this manner all manifestations of subjectivism, voluntarism in the management of the economy and of the entire life of the country will also be avoided.

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ENERGY-COAL SITUATION IN EIGHTIES EVALUATED

Prague HOSPODARSKE NOVINY in Czech 13 Aug 82 pp 8-9

[Article by Engr Josef Benes, deputy federal minister of fuel and power: "Coal Remains a Resource"]

[Text] The Czechoslovak Socialist Republic belongs among the countries that have a paucity of their own fuel and power resources and therefore are dependent to a considerable extent on imports of sources of energy, particularly of petroleum and natural gas. This fact exerts enormous pressure on the utilization of domestic fuel resources, and hence on increasing the output from both underground and surface mines. The measures that the government introduced in the second half of last year are directed, quite properly, at strict conservation of petroleum and its products. The limited possibilities of further increasing the importation of natural gas are likewise reflected in the operation of the public power plants, cogeneration plants and district heating plants. Consumption of fuel oil and light fuel oil has been minimized, i.e., limited to the essential operation of the boilers in condensing power plants fired with solid fuel, while light oil and natural gas are reserved for the exceptional cases where conversion to other fuel is not feasible, and for the densely populated centers of the republic where light oil and natural gas must be used because of environmental considerations.

The central organs intend to supply the increase in the demand for electric power under the 7th Five-Year Plan, especially through nuclear power generation. In this way it is possible to avoid an increase in the demand for solid fuels above the capacities of our coal basins where the conditions of mining are becoming more difficult as the underground mines have to be sunk to greater depths and a thicker overburden has to be removed at the strip mines.

In power generation the share of nuclear power plants will increase by 1985 to 18 percent over the 6 percent in 1980. In spite of this, solid fuel--mainly North Bohemian brown coal--will remain the decisive component of our electric power industry. The share of conventional thermal power plants in the output of electricity will be 62 percent, in comparison with 87 percent in 1980. From the above it follows that North Bohemian brown coal cannot be replaced in our power industry, just as North Moravian coking coal is irreplacable in our metallurgy. However, all the coal basins that constitute the base of our economy's fuel and power complex will play a significant role in the total balance of supplying the population with fuel and power.

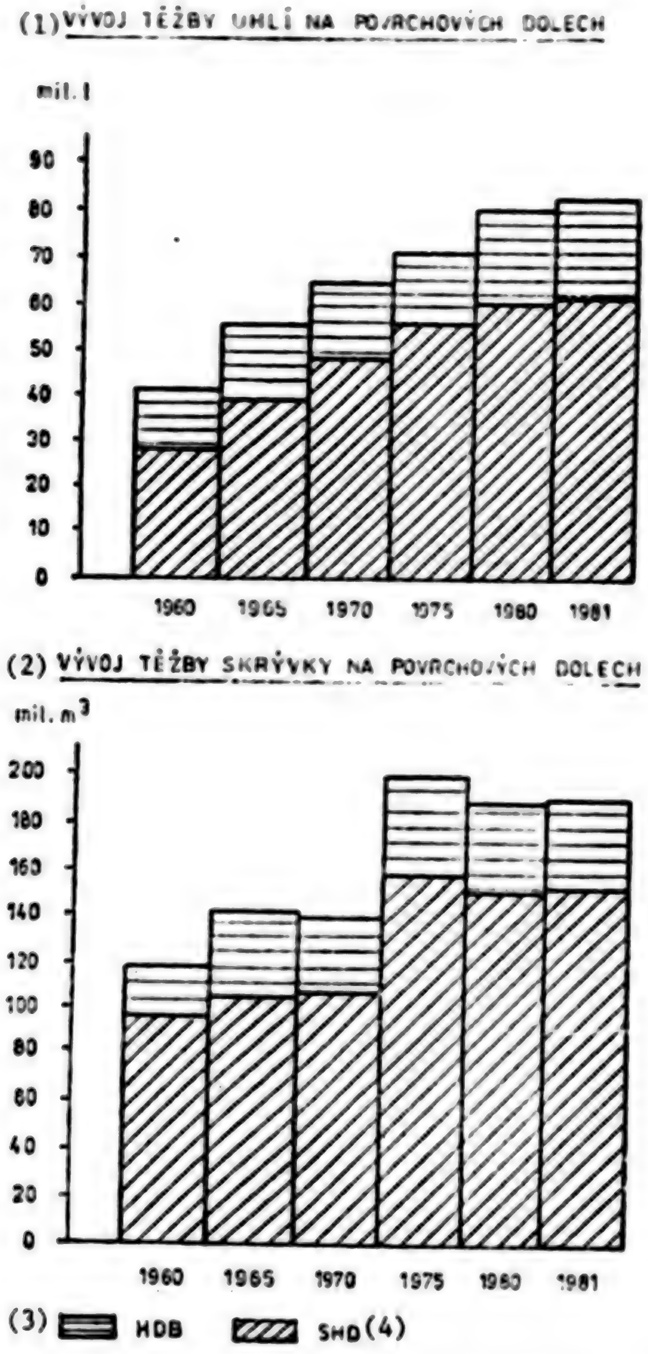


Figure 1. Development of coal mining and of stripping the overburden in surface mines in 1960-1981.

Key:

1.	Development of coal mining in surface mines	3.	HDB [Brown Coal Mines and Briquet Works, Sokolov]
2.	Development of stripping the overburden in surface mines	4.	SHD [North Bohemian Brown Coal Mines]

Geological Exploration

Coal has been mined industrially in our country for more than 160 years, and the geological reserves of solid fuel in our coal basins have been depleted to a considerable extent. Most of the reported reserves of coal and lignite are located either at not easily accessible depths or in the marginal portions of the basins where the mining-geological conditions of extraction are very complex. To meet the present requirements regarding the mining of bituminous coal, brown coal and lignite, it is necessary to ensure with sufficient lead time an entire complex of basic-research and geological-exploration tasks.

Experience with investment preparations for the construction of mining capacities indicates that the preliminary stage of exploration must be completed at least 20 years before the desired commencement of mining in the case of deposits with complex mining-engineering conditions, e.g., in the case of bituminous coal (Frenstat, Slany); for deposits with less complicated conditions this lead time drops to between 7 and 10 years. In the same manner the results of geological exploration must be available at least 5 to 10 years before the commencement of development in the case of surface mines. Delays in obtaining and transferring the necessary information involve the risk that the preparatory and the planning and design documentation might become worthless.

The demanding nature of geological exploration under the 7th Five-Year Plan can be documented by the fact that the active mines of the Ostrava-Karvina Basin (OKD [Ostrava-Karvina Mines]) will require about 130,000 m of exploratory workings and over 400,000 m of drilling to be performed by the mines' own personnel, and the subcontracting of roughly 36,000 m of drilling from the surface, to determine the deposits' geological, hydrogeological, gas and mining-engineering conditions and to prove the reserves of the new fields.

At the mines of the Kladno Coal Mines (KD) concern, mining exploration will be concentrated primarily at the Klement Gottwald, West Bohemian Coal Mines, and East Bohemian Coal Mines concern enterprises.

In the North Bohemian Brown Coal Basin (North Bohemian Brown Coal Mines) it is urgent to ensure in the stage of detailed exploration particularly the engineering-geological, hydrogeological and geotechnical exploration of the Krusne Hory slopes to test their stability for mining coal along the Krusne Hory foothills edge of the basin, including the necessary engineering-geological and hydrogeological mapping of the basin's edge and contiguous slopes in the sections of the VCSA [Large-Scale Strip Mine of the Czechoslovak Army], Kohinoor, Barbora, Probostov and Chabarovice II surface mines, and geophysical exploration to determine the tectonic structure of the basin's edge and of the contiguous crystalline rock. Under the 7th Five-Year Plan it will be necessary to drill a total of 190,000 m.

At the Brown Coal Mines and Briquet Works (HDB) concern in Sokolov the extension of its service life necessitates that exploration be directed continuously toward making additional reserves available for mining.

At the Coal and Lignite Mines of Prievidza (ULB) concern, in 1978 a complex program was prepared for exploration in all the basins through 1990. In addition to geological exploration of the deposits, at the mines of the South

Moravian Mines of Hodonin concern enterprise and Bana Dolina also release and drainage holes will have to be drilled, and on this drilling will directly depend the degree of the reserves' preparedness for mining.

The total volume of exploration in the coal industry is estimated tentatively at nearly 5.0 billion korunas.

The most essential preparations were completed under the 6th Five-Year Plan, and geological exploration was begun with workings in the definite profiles of the Slany, Hodonin, Gbely, Novaky Northeast and Cigel North localities. The first phase of exploration in the Novaky Northeast Edge locality was completed in 1980. Work on the first phase of exploration in the Frenstat locality was begun in the second quarter of 1981. Completion of these exploration projects is expected to accelerate the development of capacities by 2 to 7 years.

Ostrava Seeking a Solution

Pressure to better utilize domestic sources of energy manifested itself in a somewhat tight capacity balance of the power industry during the first three years of the 6th Five-Year Plan, but throughout the entire five-year period in the sources of solid fuel. While in the power industry the shortage of generating capacity was overcome through the construction of new power plants, in the coal industry the gap between the sources of solid fuel and its consumption was not eliminated. Our economy entered also the 7th Five-Year Plan with this gap, and it still persists due to delays in placing new capacities in operation.

In the Ostrava-Karvina Basin, growing negative factors resulted in that the average daily output dropped under the 6th Five-Year Plan, from 91,576 tons in 1975 to 83,640 tons in 1981. The factors that caused this decline were as follows:

--The additional daily output from the new developmental capacities of the CSM [Czechoslovak Youth Union], Paskov and Staric mines has been unable to compensate for the dropout of the capacities of the exhausted Fucik, Red October, Ostrava and Hlubina mines.

--The proportion of output from seams exposed to rock bumps is increasing (from 0.8 percent in 1973 to 28.4 percent in 1981).

--The rate of technical development has slowed down.

--The turnover rate is rising, and more workers have to be recruited.

--For better mine safety, the requirements regarding supports and shielding at the face have become stricter.

--The parameters of concentration are worsening, and the labor intensity of practically all operations is increasing.

The exceptional events at the Czechoslovak Army, 1 May and Doubrava mines last year underscored these negative factors.

The situation at the coal preparation plants likewise influences unfavorably the structure of the salable output. A serious negative phenomenon in this process is the high output of coal sludge, the volume of which has doubled in recent years. The coal washing plants were designed for a 10- to 15-percent proportion of sizes less than 0.75 mm, but now this proportion is nearly 25 percent of the coal mined, due to the increased mechanization of mining and haulage.

Thus the task remains of ensuring in terms of planning and design, contracting and organization the minimum amount of additional technological equipment for the coal preparation plants, to reduce the output of coal sludge.

The federal government's presidium considered the problems of the Ostrava-Karvina Mines in January of this year. Its resolution No 10 of 21 January 1982, a part of which is also the actual elaboration of the tasks in legal measure No 14/1982 of the minister of fuel and power, has created the room necessary for the solution of the present problems. The aforementioned documents contain provisions especially for ensuring manpower and the housing capacities necessary to attract manpower, and for the modernization of the Ostroj concern enterprise of Opava so that in 1985 it can begin the domestic production of mining combines, which will permit a curtailment of the import of such equipment from nonsocialist countries. There are also provisions to provide the investment necessary for the basin's development.

The task is to eliminate the aforementioned growing negative factors, through effective technical, organizational, material and personnel measures.

Work on making more specific the resolution that the federal government's presidium adopted on the problems of the Ostrava-Karvina Mines' development under the 7th Five-Year Plan was completed at the meeting which Deputy Prime Minister L. Gerle held with the branch ministers in Opava on 19 February 1982. The conclusions regarding the tasks for which the individual ministries must provide solutions were formulated specifically and in detail.

Within the framework of these interministerial negotiations, most of the problems were solved concerning the basin's development and the content of the tasks planned under the 7th Five-Year Plan. The problems of mining coal at great depths under complex mining-geological conditions are being solved also by a number of state ministerial and concern tasks in the area of management and industrial safety. Experimental mining and tunneling equipment has been imported for this purpose, and simultaneously a number of Czechoslovak-made supports have been developed, for example, the DVP series and particularly the MV 1 support that the Ostroj concern enterprise of Opava is making this year for use in working thick seams exposed to rock bumps.

Attention has focused on the problem of rock bumps, and on the Ostrava-Karvina Mines' efforts to control them, because of the growing volume of coal mined from seams threatened by such anomalous manifestations of rock pressure and the rising number of related exceptional events. An international symposium, held in Ostrava in March of this year, also considered these questions. The symposium concluded that the efforts to control rock bumps are commensurate with our knowledge of this problem, which is far from complete. However, our level of knowledge and the methods of control employed in our coal basins always compare favorably with the world development to date, even by the strictest standards. Our mining industry is the leader in the theoretical and practical application of the results of research into the problem of controlling rock bumps.

Kladno Expiring, But . . .

In the Kladno Basin, the Kladno Coal Mines concern is essentially expiring. Mining is concentrated at two concern enterprises: the Klement Gottwald Mine, and the Nosek Mine. Roughly 40 percent of the output is obtained from the Kladno seam's bottom bench that earlier was left unworked because its coal is of inferior grade. The Nejedly 2 Mine was mined out in 1980. There remain for removal remnants and the protective pillars in the Gottwald 2, Gottwald 3 and Nejedly 1 mines. The only newly developed capacity that can be worked also in the coming years is the so-called Kacice field, from which the Klement Gottwald Mine enterprise is obtaining about one-half of its annual output. Here it will be necessary to successively work several seams of irregular thickness, with many geological and tectonic anomalies.

The output of the other mining enterprise, the Nosek Mine, likewise shows a declining trend. Its reserves are gradually becoming depleted, and this fact will require considerable effort to maintain the year-on-year drop in output at a minimum during the 7th Five-Year Plan.

In the West Bohemian Basin the best-grade and most favorably bedded coal reserves have already been removed. The Prokop Mine was abandoned in the last year of the 6th Five-Year Plan. The remaining mining capacities are the Antonin Urxa Mine, where most of the workable reserves are concentrated, and the Dobre Stesti (Good Luck) Mine. A new capacity with a smaller volume of reserves is the Ovcin strip mine near Privetice. The output of the West Bohemian Coal Mines concern enterprise is essentially stabilized.

The East Bohemian Basin is the oldest coal-mining district in Czechoslovakia. The coal reserves in variously bedded seams of different thickness are being mined at the J. Sverma Mine in Zacler, the Stachanov Mine in Radvanice, and the Z. Nejedly Mine in Rtyne. Organizationally they belong to the East Bohemian Coal Mines concern enterprise in Male Svatonovice. At the end of the 6th Five-Year Plan, the worsening mining-geological conditions and the intensive capital construction in the basin created problems in ensuring the planned output. Under the 7th Five-Year Plan, however, this is the only enterprise that expects an increase in output, especially under future five-year plans when capital construction will have been completed.

In the Rosice-Oslavany Basin only the Jindrich Mine is in operation. It has reached a depth of more than 1300 m, encountering the considerable climatic and other difficulties that are characteristic of deep mines. Particularly the reassignment of the mine into a higher hazard class after the exceptional events in 1980 influenced unfavorably the results of the 6th Five-Year Plan and is causing a gradual decline of the annual output.

Considerable resources have been allotted to make the Kladno Coal Mines concern better prepared for the tasks of the 7th Five-Year Plan and in the subsequent

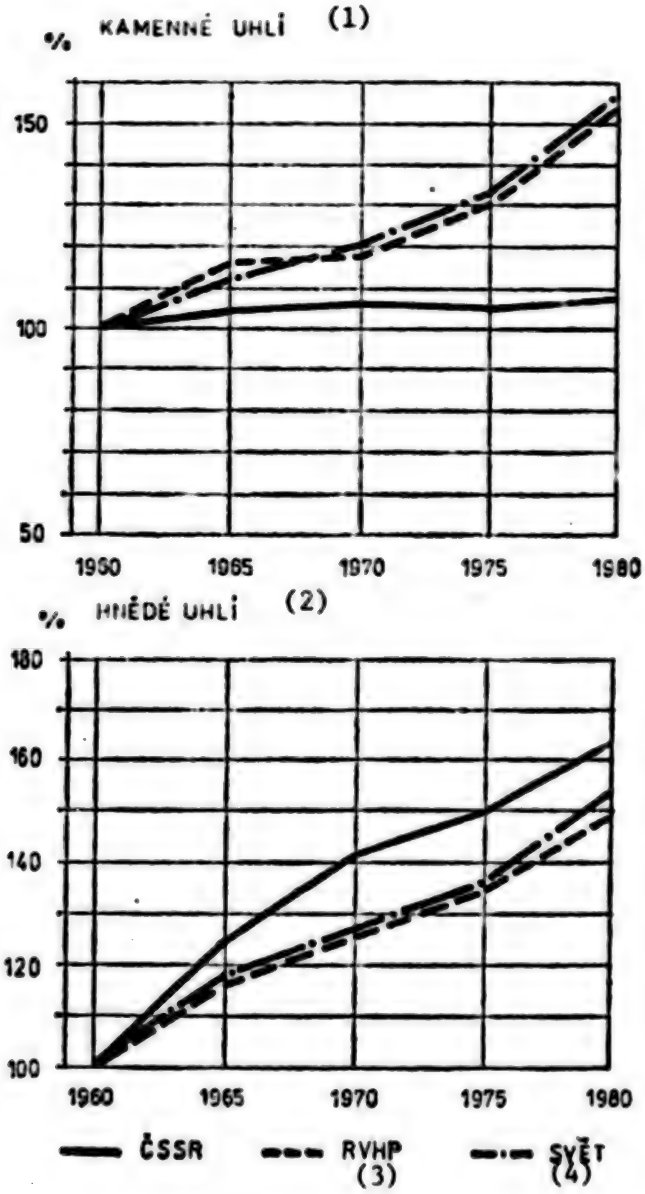
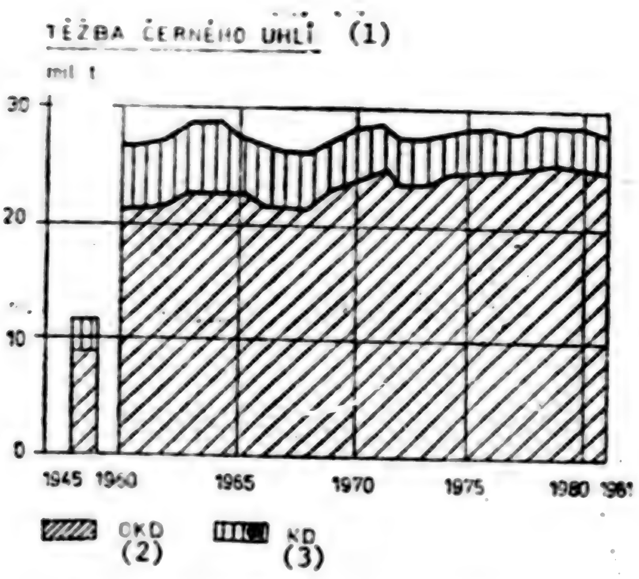


Figure 2. Output of coal and brown coal in 1960-1980.

Key:

1. Coal	3. CEMA
2. Brown coal	4. World

years. The reconstruction has been completed of the Nejedly Mine into the Klement Gottwald Mine concern enterprise, at which most of the mining in the Kladno Basin is now concentrated, including the newly developed reserves of the Kacice field. Maximum attention will be devoted to the mining-geological exploration of the future Slany mine and to the start of capital construction. In the West Bohemian Basin the reconstruction of the Antonin Urxa Mine and the development of the reserves in the Vejprnice field have prolonged the life of the West Bohemian Coal Mines concern enterprise until the 9th Five-Year Plan. And in the East Bohemian Basin investments will be directed toward completing



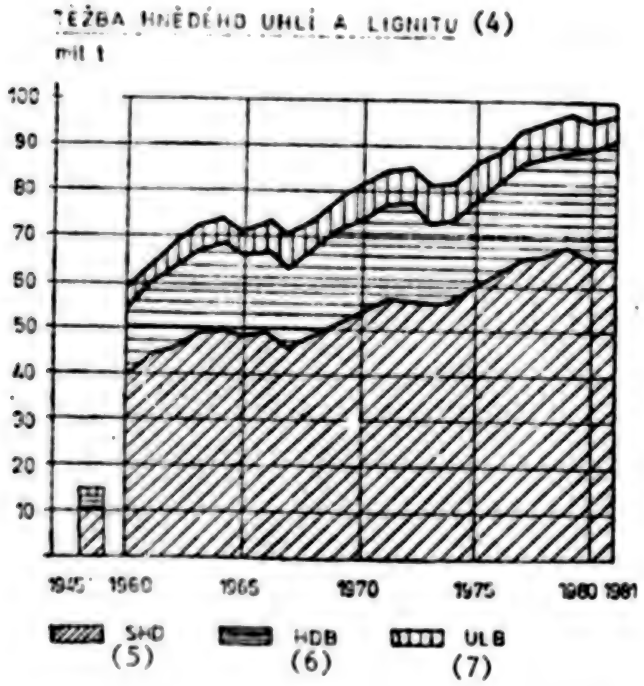


Figure 3. Output of bituminous coal, brown coal and lignite in 1960-1981

Key:

1. Output of bituminous coal	5. North Bohemian Brown Coal Mines
2. Ostrava-Karvina Mines	6. Brown Coal Mines and Briquet Works, Sokolov
3. Kladno Mines	7. Coal and Lignite Mines, Prievidza
4. Output of brown coal and lignite	

the construction of the Nejedly Mine, developing investment activity for the construction of the Stachanov Mine, and certain projects at the Sverma Mine. Exploration must be ensured with sufficient lead time, particularly at the Nejedly Mine.

Complexities in the Krusne Hory Foothills

The mining-engineering conditions in the Sokolov and North Bohemian basins are worsening. The overburden ratio, which expresses the volume of overburden per ton of coal, is increasing constantly, and so is the hardness of the overburden. The coal seams are located at depths ranging from several tens of meters to 150 meters. The haulage distance at the large-scale strip mines is becoming longer: the stripped overburden is stacked in distant spoil banks, and also the coal must be hauled to distant preparation plants. In many of the strip mines the coal is being removed from caved fields, i.e., from coal seams that have already been mined by underground methods. As a result, the mined coal contains an increasing proportion of grades with a high ash content.

In the North Bohemian Brown Coal Basin the coal reserves at several mines have been exhausted, and there is also a decline of capacity at the mines whose service life is about to end.

Development of the coal output in both basins of the Krusne Hory foothills under the 7th Five-Year Plan will be 95 percent mechanized. The strip mines have been and are being equipped with technological units of the TC 1 and TC 2 series, including digging-wheel excavators of the KU 300 and KU 800 types for removing the coal and stripping the overburden, and stackers for stacking the spoil. The high wall and the spoil banks will be connected by long conveyor belts 1600-2200 mm wide. At present there are ten TC 2 technological units with KU 800 excavators in North Bohemian Brown Coal Basin, and one in the Sokolov Basin. The first technological unit of the TC 3 series, with a K 10,000 excavator and ZP 10,000 stacker, is in trial operation at the Maxim Gorkij Mine.

The concept of using giant excavators was gradually included in the plans for the construction of new strip mines. To ensure the development of both basins, the design and development of the TC 2 and TC 3 technological units, with an output of 5000 and 10,000 m^3/h respectively, were assigned as tasks of the plan for the development of science and technology. However, the annual outputs of the present technological units are below their design capacities. The high frequency of the most diverse breakdowns of the giant excavators and conveyor belts is causing frequent stoppages, as a result of which the utilization of available machine time and capacity is low.

It was decided to resolve this situation by redesigning the individual technological units so as to reduce the frequency of breakdowns, increase the units' operational reliability, and achieve 4500 hours of operation a year through fewer stoppages.

The interministerial commission on giant excavators prepared the catalogues for redesigning the KU 800 and KU 300 digging-wheel excavators and the long conveyor belts. These catalogues specify the present state of the individual items, subassemblies and parts, and the manner in which they are to be redesigned.

The documentation for redesigning the individual technological units was prepared on the basis of these catalogues. The documentation specifies also the time limits and financial incentives, and it has been reconciled by the suppliers and customers. The financial and work volumes are substantial, and

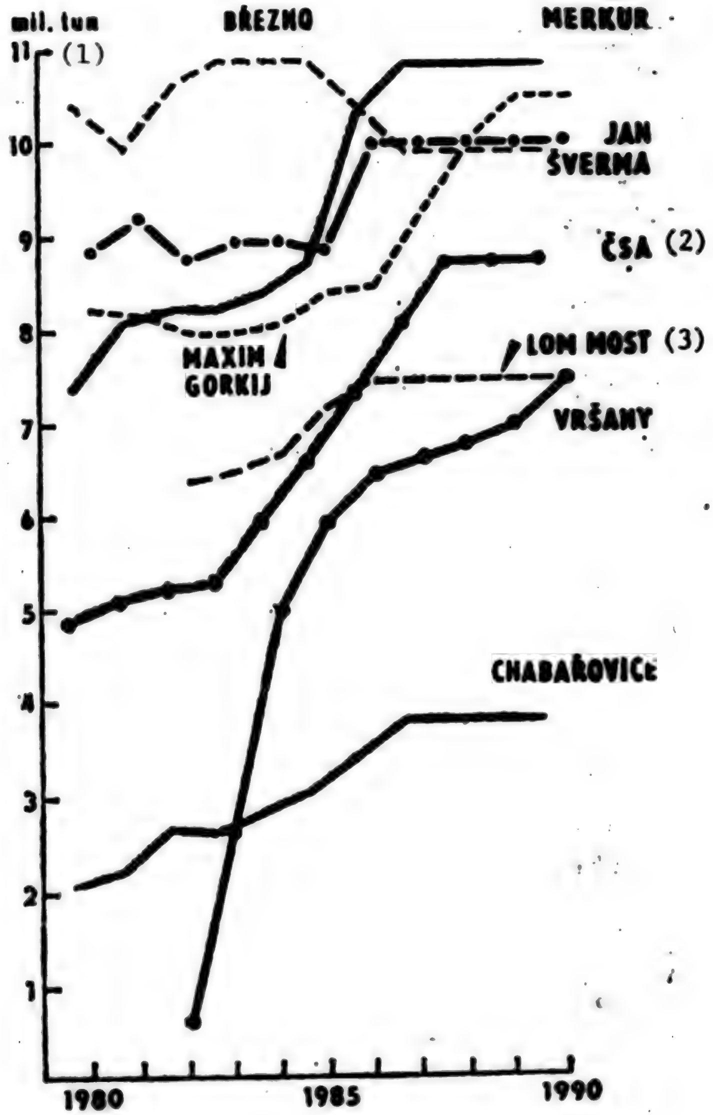


Figure 4. Anticipated development of the output of brown coal through 1990.

Key:

1. Million tons	3. Most Strip Mine
2. Large-Scale Strip Mine of the Czechoslovak Army	

therefore the redesigning cannot be completed ahead of schedule: the end of 1983 for the technological units with KU 300 digging-wheel excavators, and 1984 for the technological units with KU 800 excavators. The demanding nature and complexity of these tasks stem from the fact that the design changes must be made during full operation. Therefore exceptional measures are being announced, and equipment and workers are being concentrated so as to keep production dropouts at a minimum.

The output tasks of the brown coal basins in the Krusne Hory foothills were discussed at the January 1982 conference that Federal Deputy Prime Minister Ladislav Gerle held with the ministers of the supplying departments. The following specific tasks were set at this conference:

--The utilization of heavy equipment within the CSR Ministry of Construction must be checked for possible temporary deployment to help out the mining enterprises in the North Bohemian Basin.

--The giant excavators and long conveyor belts must be redesigned in 1982.

--Capital construction at the brown coal basins in the Krusne Hory foothills in 1982, 1983 and in the subsequent years of the 7th Five-Year Plan.

--Technical development of mining technology.

--Deliveries of spare parts must be increased for the DET 250 bulldozers and their general overhauls.

Slovakia: Output Increasing

The Coal and Lignite Mines concern of Prievidza has deposits of brown coal and lignite in three basins:

--In the Handlovo-Novaky Basin whose tectonic dislocation and irregularly caving overburden make mining difficult;

--In the South Slovakian Basin where the mining-engineering conditions of coal production are aggravated by complex hydrogeological conditions, and in some sections also by occurrences of carbon dioxide;

--In the South Moravian Basin where the deposit is slightly faulted and has complex hydrogeological conditions. The overburden and bedrock have sandy layers with water pressure.

To increase the output capacity, the Cigel and Dolina mines were modernized, and the edge of the Novaky Coal Mines' deposit was made accessible for mining by opening the Lehota small strip mine, the first strip mine on the territory of Slovakia. The principal tasks of the South Moravian Lignite Mines in Hodonin include the draining of the lignite deposit and the construction of a new mine, the 1 May II. Construction of the Hodonin Mine I is nearing completion, and it will start production in 1983. The concern's coal output will increase under the 7th Five-Year Plan, reaching 7.8 million tons by 1985.

The demanding nature of the miners' work, the high output tasks and the limited number of workers were not in accord with the requirements and necessitated the solution of this situation. The 16th CPCZ Congress appreciated the miners' work results and ordered the adoption of measures to improve their social care, and their living and working conditions.

Accordingly, the federal government's presidium adopted its legal measure No 41 of 14 January 1982 that influences very significantly all basic questions of economic and social policy in coal, uranium and ore mining. The overwhelming majority of the jobs in mining are associated with specific working conditions that require solution of the questions concerning the working environment. The primary concern is industrial safety, i.e., the prevention of injuries and occupational diseases, and the complete elimination of harmful factors, including dust control, noise abatement, control of vibration and undesirable rock phenomena, particularly rock bumps, the prevention of gas bursts and water bursts, solution of air conditioning for the work stations, prevention of exposure to ionizing radiation, and overall improvement of the working and hygienic conditions.

1014
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CZECHOSLOVAKIA

BANK DIRECTOR CALLS FOR IMPROVED EXPORT, SET OF MEASURES

Bratislava PRAVDA in Slovak 8 Sep 82 p 4

[Interview with Eng Vladimir Valach, director of the Czechoslovak Commercial Bank's Bratislava joint stock company affiliate, by Peter Sitanyi, date and place not specified]

> [Text] One of the main tasks of our economy during the Seventh 5-Year Plan is the strengthening of our export capability. It is no secret that in this area, we have thus far failed to achieve the kinds of results that we need and that we have the capability for. Thus, if a person discusses our exports to nonsocialist states with leading economic figures, it can be heard from them that there are great problems with these exports, true, it is said, that objective reasons lie behind them. Hardly any of the directors of enterprises, VHJ [economic production units] or certain ministries admit that we ourselves create a real barrier to increasing our exports. Thus, we discussed these and other questions with Eng Vladimir Valach, director of the Czechoslovak Commercial Bank's Bratislava joint stock company affiliate.

[Question] Comrade director, do you think that objective problems and reasons predominate in the area of our foreign trade relations?

[Answer] One cannot view the total situation primarily from that aspect. The entry into the eighties brought many new phenomena. In the world, economic growth has slowed down, the economic foreign-exchange situation has deepened in capitalist countries, etc. In our opinion, these are all objective reasons, for many capitalist companies that we were trading with are finding themselves in financial difficulties, or have gone bankrupt. Everyone is striving at all cost for maximum exports and the lowest possible imports. This is the reality of the situation. Over and above that, there has also been a substantial worsening of conditions in international financing markets, the instruments which at one time characterized economic cooperation (credit, trading in food products, etc) are now becoming instruments of political pressure. We have to keep all of this in mind, but these are not facts that are to serve us for substantiating some of our own deficiencies in foreign trade.

[Question] It can be gathered from your words that, evidently, we have sufficient internal reserves, with the use of which we could substantially improve the situation in this area.

[Answer] Conceivably, however, let's call things by their right names, because we are not speaking of reserves alone, but also about many deficiencies, and there is a difference.

[Question] At the present time, there is much talk about economic effectiveness in our country. Of course, this applies, not only to the production area, but also the area of foreign trade. The latter could often give signals to production on what could be saved and where. Could you cite at least one example of something that would verify that known fact in our economy, we expend excessive energy, materials, and raw materials per unit of production?

[Question] Once, we analyzed the development of trade between France and Czechoslovakia. In doing so we found out that 3 kg of our exports cover 1 kg of our imports from France.

[Question] It could be said that in foreign trade, so-called volume indices still predominate, that we want to export mainly large quantities and volumes, but we are still not giving sufficient priority to quality, technical parameters, efficiency, etc.

[Answer] It may be said that way also, however, like it or not, we have to change our approaches in foreign trade, there is no way we can keep on doing things the old way, why, the forcible pressure to export can sometimes mean a loss of effectiveness, or even a loss of market. We have to give considerably more thought to what we have capacity for, what is most advantageous for us, which partner is the best, how to distribute our resources also from the standpoint of international socialist integration, further restructuring of production, etc.

[Question] It seems that you have conceived certain ways out of this situation.

[Answer] There is not, nor can there be, any thought about any kind of subjective ideas and wishes. It is necessary to remind oneself of the resolutions of the November plenum of the CPCZ Central Committee in 1974, the conclusions of the 16th Party Congress, and the fourth and fifth plenums of the CPCZ Central Committee and the sessions of the CPSL Central Committee, and to put them into practice consistently. An increase in the level of our foreign trade is not possible without the fulfillment of three basic requirements. First is a more consistent adherence to labor, technological, contractual, planning and financial discipline. Second, it is necessary to intensify familiarization and analytic activity, and finally, also to prepare measures within the framework of the set of measures. Thus, in the drive toward exports and export effectiveness, we are speaking about many levels in the area of operation, management and organization of work, but even in the conceptual and systemic area. This concerns not only foreign trade enterprises (PZO) but production in particular, and also the self-supporting [khozraschet] spheres and center.

[Question] Labor, technological and contractual discipline are not unknown concepts, however, in foreign trade, it is still just needed to understand them more specifically....

[Answer] I will give hard facts. Sometimes, it happens that when industry sends comparison goods of some new product to a foreign partner who is interested in it, it does not send a product there that is brought up to first-grade quality, but just to third-grade. Simply stated, should there be still any room in a railroad care, it is filled up with whatever is on hand. Think a little about the problem of that foreign customer and you can easily conclude how he would be reacting to that. Or another example; if we should send comparison samples of high-quality antifriction bearings to a foreign partner that are wrapped in old, dirty paper, do you know what he will tell you? He will acknowledge that analagous products from other suppliers are of lower quality than ours; however, he will also stress that the competing supplier respects him, that he sent him clean samples, in attractive wrapping, etc. There is no guarantee coming from us that our possible supplies will be reliable in all aspects when we send even samples in such a condition.

[Question] Certain foreign-trade enterprises and production enterprises explain the nonfulfillment of export assignments, aside from the worsening marketing situation, also by the obselescence of machinery. Let us turn aside momentarily from exports and dwell on imports, in particularly of machinery and equipment. Various studies and analyses confirm that we have considerable reserves and deficiencies in the utilization of machinery and equipment imported from abroad.

[Answer] Yes, for example, toward the end of the first half of 1982, in the production enterprises of the VJHs [economic production units] in the SSR Ministry of Industry, more than exchange korunas' 1.5 billion worth of machinery and equipment that had been imported continued to be unused, thus, the machines were idle.

[Question] Obviously the workers of the ministry would object in this case to the fact that much capacity was not put into operation in time.

[Answer] Of course. However, for these problems, one must not look at things only from a departmental aspect. The reality is harsh, and the overall social extent is considerable and negative. But improvement is possible, nevertheless. This is attested to also by the positive example of the third or fourth stage of construction of Chemion Humenne several years ago. This investment action with the importation of several hundreds of millions worth of equipment, gave evidence of a well-considered conceptual approach encompassing every detail, which was decisive in the fact that the investment project was fulfilled several months earlier than had been expected. In doing so, extra new products were obtained for the domestic market, and for export as well in the amount of several tens of millions of korunas.

[Question] You mentioned the intensification of our analytic and familiarization activity as one of the future conditions for raising the level of our export capability. Could you explain this in greater detail?

[Answer] Yes, the same thing applies to economics as to medicine--effective therapy can be applied only on the basis of correct diagnosis. For example, it is said that marketing has dropped in foreign countries. Although that holds true on an overall scale, it is necessary to recognize the market condition development in its structure, since, for example, there are branches where the growth curve continues to be high, for example, in the pharmaceuticals industry, or in branches that are closely tied to scientific and technical development, and, obviously, in top-quality products. We have to find ourselves a solution here, as well. Of course, a prerequisite for success in foreign economic relations is the intensification of socialist economic integration, too. We still have considerable reserves in specialization and cooperation with socialist states, and in greater coordination of joint approaches to third country markets, as was also demonstrated at the recent CEMA conference in Budapest. In exporting and even importing machinery, there exists a possibility and a stark inevitablity of expanding to a much greater extent, the register of different forms of trade transactions that are adequate for a given situation. First of all, this concerns production cooperation, the appropriate interlinked trading, cooperation on third-country markets, leasing, etc. A further inevitability also is that of keeping tabs on foreign-exchange developments under current chaotic, speculative, and considerably high exchange-rate fluctuations, and then the evaluation of geopolitical foreign-exchange and other commercial risks. For example, we consider the developing countries to be one whole; at times, however, within the framework of these countries, there are already many groupings from a standpoint of economic growth, indebtedness, political orientation and stability, and all of this also has to be brought to our attention, in the development of our foreign economic relations. In other words, it can be said that today, trade matters are a matter of concern not only for traders and bankers, but also for engineers, lawyers, financiers, etc.

[Question] However, this approach has not been completely adopted in our enterprises, VHJ and ministries....

[Answer] It's a pity, but thus far there is a lot of talk about exporting, but we haven't done everything, even for the creation of a satisfactory export climate that would be adequate also from the standpoint of the urgency of demands. It is insufficient to just look at the plan tasks for this year, or to the end of the Seventh 5-Year Plan. Every enterprise, sector, and branch should get to know how things stand for them in comparison with the world, what to do so that, for example, by 1985, or by 1990, they would approach the world peak with their products. This, of course, calls for further reciprocal ties and social requirements for the future orientation of scientific and technical development, innovation processes, and goal-oriented concentration of investment and exchange funds in pursuits that are of high priority and effectiveness. A further reality that is not always obvious in practice is also dependent upon the export climate. What this means is that the fulfillment of export assignments would have to be the affair of the entire collective, a matter of pride, of the good name of the product and the enterprise. Not only the management, but all workers, and this means those in quality control, in packaging, in shipping, they all have to be aware that even the financial condition of their enterprise, their salaries and their awards, as well as the capability for their enterprise to have further imports for operational requirements and for technical development, depend on export and its effectiveness, and on the accumulation of foreign exchange in export.

[Question] The Set of Measures has been in effect in our economy for more than a year and one-half. How would you describe its influence on our foreign trade?

[Answer] In this area, thus far, the Set of Measures has not been worked out sufficiently. This is known, and is being dealt with. This involves, for example, the area of supplier-user relations between industry and foreign trade, for the purpose of increasing the producer responsibility for foreign trade results, closer links between scientific and technical development and foreign trade, the area of material incentives, price formation, etc. However, you have to have a thorough knowledge of what you are doing. The Set of Measures is not a self-redeeming thing. Even the best proclamation or prescription cannot improve the situation and solve the existing problems if people do not want to do so, or if the conditions for dealing with the problems are not changed.

For example, for the complex analysis of economic activity for last year, Kerametal and its suppliers behaved pretentiously toward one another, although together they attained wholly good results anyhow. On the other hand, in our wood and furniture industry and in its export, there are many deficiencies and problems, but making the same analysis, Drevounia and the producers behaved as through their problems of mutual supplier-user relations did not even bother them very much. It is true, as it is said, many things have to be changed, even in the rules of the game. For example, the increase in wholesale prices during innovation does not always reflect a growth in its utility value even when this sort of "innovated" product is put on the foreign markets, its f.o.b. price is not increased as much as the wholesale price, but, in contrast, it is necessary to lower that price still further, because the competition has a more rapid innovation process. Obviously, it is clear as day that the effectiveness of export is lowered with this. The drive for exporting is not always united and coordinated in the foreign-trade enterprises and industry, even from the standpoint of export plan indicators, and their realization and effectiveness.

[Question] Of course it would be possible to spell out still more problems an and deficiencies that we have to correct in our foreign trade. On one hand, they may at times be unnecessary, at the same time, however, they give cause for real optimism....

[Answer] Understandably, in the very solution of existing problems and the elimination of mainly subjective deficiencies, one has to see solutions, reserves, ways toward increasing the level of our foreign economic relations. And it is for this very reason that it is necessary for producers and foreign-trade workers not to look for cop-out answers in the objective difficulties and problems of the world economy and trade. Yes, such problems are there, however, in spite of them, we can attain much better results than we have so far, even in export.

5808
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LACKADAISICAL APPROACH TO SET OF MEASURES CRITICIZED

Prague RUDE PRAVO in Czech 10 Sep 82 p 1

[Editorial: "Improve Management, Increase]

[Text] The first and most important prerequisite for development of the intensification of the national economy and increasing its efficiency is continuous improvement of all forms of management. For that reason the CPCZ pays foremost attention to the quality of management throughout the economic sphere. The Set of Measures for Improving the System of Planned Management, approved in the first quarter of 1980 by the Presidium of the CPCZ Central Committee and CSSR Government, is among the most significant documents stimulating economic development over the past years. It involves an extensive set of new measures and rules for management, planning, organization and a system of incentives in all spheres of the national economy.

The Set of Measures has been in force for 20 months now. The findings made so far show that it positively affected the qualitative aspects of management last year and in the first half of the current year. Nevertheless, these results must not be overestimated, because up to now they involved activation of easily mobilizable unused resources, and even that not in all sectors. On the other hand, it appears inevitable to tighten the criteria for assessment of products, to limit exemptions from their technical level and quality and to refrain from granting any exception in regard to validity of the rules implemented by the Set of Measures.

Improvements in the system are to bring about significant improvements in the quality of management. Experience shows that there is need for active help by party organs and organizations toward a much more active approach to changing the style and methods of management, compilation of plans and their implementation, toward overcoming traditional, often bureaucratic, approaches and toward more resolutely opposing efforts to pass on solution of problems to higher levels of management.

It is essential that managerial personnel be oriented to a great extent toward conceptual problems in development of branches and sectors, toward coming to grips with solving the problems attendant to assignment of jurisdiction and responsibility at all levels of management. The comprehensive programs worked out so far for developing the management of ministerial branches still fail to meet the demanding requirements of the Set of Measures, there is a prevalance of organizational and legalistic approaches at the expense of economic approaches.

There is considerable differentiation in the progress made with implementation of the new rules. This is best documented by the considerable number of VHJ's [economic production units and organizations] that only now are winding up adaptation of the new rules to their conditions in intrasectorial and intraplant management. After the requirements of the Set of Measures had been common knowledge for 2 1/2 years, it says something about their leading personnel. There is also a great difference in the degree to which work teams and individuals are familiar with the contents, specific rules, regulations or orientation of bonus systems under the conditions of individual places of work, which often has as its consequence inadequate participation of employees in formulation, implementation and assessment of meeting the plan, in implementation counterplanning and in their motivation for continuous improvement of work results. Only one conclusion can be derived from this state of affairs--responsible personnel in some organizations have approached implementation of the Set of Measures with procrastination.

Implementation of the Set of Measures brought with it a number of steps promoting technological development. Even though it involves factors that remain operational over longer periods of time, their effects to date have been less than satisfactory. Technological development in many organizations is still considered to be an independent, loosely linked part of economic planning. The biggest problems in the area of technological development persists in introduction of the results of new technological achievements and other forms of innovation in production. Among the key reasons for the described state of affairs is lagging preferential treatment accorded to personnel engaged in technological development in regard to wages and morale, there are lagging resources in capacities for implementation of innovations in the case of producers, subcontractors, etc. Inadequate capacity for innovation becomes reflected particularly in the area of foreign trade, to which production not infrequently offers obsolescent goods. But that is not a fault of the Set of Measures, but of key managerial personnel who fail to systematically implement its provisions.

The above-mentioned and other shortcomings are due to a failure to comprehend one of the most important rules of the new system of management which assigns technological development the function of being the key axis for all managerial, planning and organizational efforts. The plan for technological development of economic branches, VHJs and enterprises is not being drawn up as the basic document determining other parts of economic planning, but as a supplement, at best as a parlallel line to or superstructure of the enterprise, branch, or sectorial plan. Simply put--the procedure applied is rather contrary to that called for by the Set of Measures. This weakens, or completely fails to make use of the mobilizational properities of a number of elements, but the entire concept of utilizing the key factor for intensification of the national economy is put upside down.

Thus, there is no wonder that in some cases the attained results fail to result in the expected changes. For example, the share of first-quality products in five selected sectors (three federal machine-building and both national ministries of industry) amounted last year to Kcs 47.5 billion, which was an approximately 6.25 billion increase over the preceding year. In a longer-term projection, it is for all practical purposes identical to the increase registered and economic level also does not significantly deviate from the development in the past years. One of the causes is rooted in unsatisfactory introduction of comprehensive quality-control systems. The progress of their introduction is imbalanced not only within sectors, but also between branches. Some enterprises, VJHs and sectors do not envision the final phase for introduction of comprehensive quality control systems until next year. That is evidence of inflexibility and slow reaction to justified requirements; after all, the government resolution regarding a comprehensive system for development of quality control was adopted as early as 1978. In the 4 years that have elapsed since, the overall results could have definitely been better.

The entire Set of Measures is oriented toward improving the efficiency of the national economy and, within it, improving the efficiency of exports. What do the facts show? In the machine-building sector the share of new products with verified quality amounts to 78.4 percent in comparison to 48.7 percent of products with verified quality from total production. The sector of metallurgy and heavy machinery also has a share of products with verified quality approximately double that of the same category of total production. However, the share of products with a high technical and economic level in both machine-building sectors also amounts to only 26.8 percent of all new products. Thus, only about one-quarter of new products promotes increases in effectiveness. That also bears witness to underestimation of the significance and position of technological development which, after all, should be coming up with new products of a high technical and economic level. It must be admitted that the rate of development of new high-quality and technically advanced products does bring some positive changes, but these are only interim, partial successes that provide encouragement toward more concentrated efforts in the given field. However, their practical contribution still fails to play the decisive role. And that is the kind of contribution that we do and must strive for.

In assessing the progress of practical implementation of the Set of Measures, much better results continue to be shown by industrial branches. On the other hand, in the field of capital investment a number of measures still failed to be worked out by responsible control organs, even though they involve such important matters as are, e.g., encouragement of savings in budgetary expenses, shortening construction deadlines, billing for installations, etc. That is obviously the reason why the results attained in the field of capital investment and construction in general are unsatisfactory. And it also bears witness to a lack of discipline in some links in the chain of management. It is not enough to just acknowledge the existence of resolutions, the main thing to do is to implement them.

The Set of Measures is not at all just some administrative matter, as the behavior of key personnel in some organizations would tend to indicate, but a challenge to a change in thinking and approaches to work which cannot be disregarded, challenge to combat shortcomings and problems, mobilization of talent and resources, repudiation of any form of taking things easy and procrastinating, a test of party and civic responsibility. It is, therefore, imperative that its implementation be approached in this manner and its progress assessed accordingly.

The Set of Measures was adopted as an open system with the proviso that it would be gradually and continuously updated and improved. To put it simply--it will keep imposing progressively higher and more demanding requirements. Therefore, the program for continuing efforts for improving the system of management and planning is based on findings and experience gathered in implementation of the Set of Measures to date and on future conditions of economic development. Its objective is such a development of the system of planned management as would promote closer reapprochement among management and planning systems within CEMA. The substance of all other elements remains further intensification of the development of the national economy and ongoing improvement of its efficiency.

8204
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EXPERTS INTERVIEWED ON USE OF ROBOTS, MANIPULATORS

Prague HOSPODARSKE NOVINY in Czech 20 Aug 82 pp 8-9

[Interview with Eng Vladimir Cop, ScC, director of the Metallurgical Industry Research Institute in Presov, and Eng Milan Damits, ScC, secretary for science, by Jan Prochazka and Zdenek Skoda: "The Feedback Principle"; date and place not given]

> [Text] What is the definition of the word robot? For a long time dictionaries--even the most authoritive ones--described it only in terms of kitchen appliances, automatic pilots, or [the drama] RUR by Karel Capek. It was not until 1966 when "Prirucni slovnik naucny" [Concise Encyclopedic Dictionary] included the definition: "An automaton capable of reacting to certain impulses from its environment and simultaneously, of reverse reaction on that environment." In technical terms, this means a robot with a higher level of intelligence (if we exclude impulses introduced manually or by a set program). In economic terms, however, this basic attribute--feedback--is already working! This was confirmed in our interview by experts from the coordinating institute for industrial robots and manipulators.

On the day they were signing a contract on servicing of robots and manipulators with the Institute of Technology, Eng Vladimir Cop, ScC, director of the Research Institute for the Metallurgical Industry, and Eng Milan Damits, ScC, its secretary for sciences, explained to us how robots fit in the field of economy and organization.

The main topic of their explanation was the feedback to the environment.

[Question] Where do we need robots and manipulators and where can we deploy them? Are some areas mapped for their most efficient utilization in specific Czechoslovak conditions?

[Damits] Since 1976 when our state research began developing the model series, the needs for this equipment have been continuously studied. First were analyzed the needs stemming from potential automation of individual machines currently installed as well as those newly developed, and their prices and use; secondly, the needs of their users were studied by means of marketing, and thirdly, plans for thorough modernization and rationalization programs were analyzed.

Thus, we made detailed assessments of the needs in the ministries of general engineering, metallurgy and heavy engineering, and of electrical engineering. Furthermore, partial analyses were made of branches manufacturing consumer goods--textile, knitting, glass industries. At present, we are conducting the study in other sectors. Thus, it may be said that we are informed of the needs in the CSSR.

[Question] These are needs according to your evaluation. To what extent do they agree with the actual interests of potential users?

[Cop] The Presidium of the CSSR Government requested that the programs for the production and deployment of industrial robots and manipulators be specified, and on that basis we proposed that about 3,550 units be manufactured in the Seventh 5-Year Plan. This number includes 1,550 units for the Ministry of General Engineering, 1,350 units designated for metallurgy and heavy engineering, and 645 units for the electrical engineering industry. However, according to our analyses potential use of the newly developed machinery in technologies installed in production exceed three times the volume currently allocated for their production.

[Question] Why is there such a difference between the opportunities and practical needs?

[Cop] Major potential users either failed to realize how important robots and manipulators would be for them, or they could not set aside large funds for their purchase. Moreover, planning preparations for the organization of automated technological centers and higher production systems with robots and manipulators are lagging behind greatly. And thus, neither major modernization programs nor new investment plans include this technology.

We proposed two solutions: according to the first, the existing engineering planning capacities operating in appropriate VHJ [economic production units] or in engineering organizations directly managed by the ministries would set aside a part of their capacity which will be balanced in the plan. We do not have to run them directly but we must balance their capacity in order to know that such and such capacities are needed and how the VJH will pay for them.

We propose another solution, so that at least one-half of the concentrated capacities be in reserve for dealing with major programs. For example, a modernization program will be under consideration in the production of automobiles or washing machines. The appropriate VHJ cannot resolve this whole problem with the few experts on its staff. Therefore, competent engineering-planning supply capacities with a staff of experts must be active in our republic. Under such circumstances we may aspire to export plants--immaterial products--even to capitalist states. However, both our specialized production and principal consumers must expand production capacities for accessories for robots. This represents about 10 percent of the volume of goods manufactured by the engineering industry in the GDR but less than 1 percent in our country.

The association of planning and service engineering organizations, ROBOTECH at the VUKOV [Metal Industry Research Institute] in Presov, will plan engineering programs. For its membership were proposed engineering planning and service sectors of VUKOV and of principal manufacturers of robots and manipulators, furthermore, special sectors appointed in centrally managed professional planning organizations and newly built central planning and service facilities at the CVUT [Czech Institute of Technology] in Prague, VUT [Institute of Technology] in Brno, and the capacities of the Institute of Technology in Kosice. VUKOV will coordinate the program on the basis of agreements on association and bilateral service contracts.

[Damits] The analysis of the needs in other nonengineering branches must be amended, as stipulates decision of the Presidium of the CSSR Government No 211/81 of 10 December 1981.

[Question] Why are robots not included in new construction plans?

[Damits] It will be another task to obtain--through the Federal Ministry for Technical and Investment Development and individual ministries--additional experts for the planning of major investment programs from the point of view of automated technologies in the seventh and eight 5-Year Plans. As soon as the planning of the utilization of this technology begins--and I cannot think of any other way--the required specific-purpose supplements will be allocated by the ministries through the VHJ for the enterprises.

[Question] What is the main reason the future users of robots are coming to you? Are they eager to get modern technology for its own sake, or do they expect that it will help solve their problems, for example, shortages of workers? Is the latter issue regarded as a possibility for the future or is it an actual, urgent problem?

[Damits] In some cases the motivation of the users is obvious: immediate shortages of workers. For instance, there are no welders available and hence, the demand for welding robots. If today we had 10 times more such robots on hand, we could sell them; unfortunately, we do not have Mezomatic electric drives. Robots for coat spraying and for forges are in the same demand.

The motiviation to save workers in machining sectors is not so urgent, however, it is relatively pressing in profiling, but in those cases we are able to meet the demand.

[Question] How have you developed robots and manipulators according to their special purposes?

[Cop] The state program for the development of sciences and technology coordinates research and development of adaptive industrial robots and unified manipulators. This task is included in international scientific and technical cooperation; a model series is being supplemented and integrated with products of the USSR and Bulgaria on the basis of cooperation on an international scale.

[Damits] Research and development of M 4 models of profiling manipulators are finished as are universal industrial robots for machining, assembly, control, servicing of PR 4 and PR 16 pressure-casting machinery, PR 32 industrial-welding robot, handling building-block units for the construction of M 63 automated production systems and lines, ML 16 loading manipulators for large-surface molding, M 40 and RMS 35 manual balancer. They have been introduced in the production process or their prototypes are being tested. The USSR and CSSR jointly designed and developed other models whose series production in our country will begin in 1983, namely, models AM 5, MTL 10, UM 160 developed by VUKOV in cooperation with the Soviet organizations ENIKMASH of Voronezh, NIISL of Odessa, and ENIMS of Moscow.

In the Seventh 5-Year Plan the model series will be expanded by at least seven other robots and manipulators which will be manufactured beginning in 1983. This series includes also the PMS and PMZ manual pneumatic manipulators made by the Skoda Works in Ostrov nad Ohri, and the MX assembly foundation units developed by the Research Institute for Mechanization and Automation. More than 380 units of special-purpose manipulators will be developed and manufactured for machining and profiling equipment by the TST [Engineering Machinery Plants] syndicate.

[Question] Which enterprise are already involved in the production?

[Cop] In addition to the above-named producers. the ZPA [Machinery and Automation Plant] in Presov, Vihorlat in Snina, ZTS [Heavy Machinery Enterprise] in Detva, ZTS in Bardejov, BAZ [Bratislava Automotive Enterprise] in Bratislava, ZEZ [Electric Heating Appliances Enterprise] in Horice, Kovopol in Police nad Metuji, SAM in Myjava and TOS [Machinery Tool Factory] in Trencin have begun production.

[Question] The Czechoslovak Motorcycle Works [CZM] in Strakonice also developed their own robot, and the Research Institute for Electric Rotary Machinery in Brno has developed another one. Are these products included in this system?

[Damits] These robots were not developed as a part of the model series which must be integrated in the CEMA model series. The ZSE itself does not count on mass production; in the 5-year period it intends to manufacture about 29 units. The CZM in Strakonice anticipates large-scale production after the completion of the development.

[Question] Here is another feedback--limited series of models are very costly. Compared with 30,000 to 40,000 robots and manipulators in the GDR and hundreds of thousands of them in the USSR, we in our country are still at the stage of piece work, or at best of limited series production, if only 3,500 units are planned for this 5-year plan.

[Cop] Just the same, our prices are in agreement with world averages. Our price for manual manipulators is approaching the range of Kcs 30,000 to 80,000 of simple manipulators about Kcs 100,000 to 200,000 and of complex industrial robots and manipulator systems Kcs 600,000 to 1.2 million. However, the prices of our electronic control systems, electric and hydraulic drives are not in line with world averages.

[Question] What is the share of control systems in the price of robots?

[Damits] They account for up to 40 percent of the total price, which is too much in comparison with their share in the world. Nevertheless, we must consider that the prices of electronics will drop substantially. We outfitted the RS-3 system with Model 8080 microprocessors developed on the basis of the system of small SMEP electronic computers. The entire control system of our robots is being adapted for it. We have just finished the design of the RS-1 C control system where we succeeded in slashing the price by as much as Kcs 100,000 to 150,000. The price of the RS-2 system is Kcs 220,000 to 280,000 the new ceiling planned for RS-1 C is Kcs 130,000. That is a simple system which is quite satisfactory for our model series of pneumatic and hydraulic drives.

[Question] Users are probably more concerned about the returns on their investments than in the purchase cost. What is the outlook, judging from your experience thus far?

[Damits] Users consider efficiency in terms of savings of about 1.5 to 2.6 workers per robot or manipulators. Furthermore, among their advantages is that the rate at which the production machinery is utilized may be increased on the average by 20 percent and increased in addition by about 40 percent by operating the machinery in second and third shifts. Thus, the return on the already developed as well as on the planned industrial robots and manipulators is on the average 2.6 to 3.6 years. However, we envisage no substantial increase of efficiency before group deployment of robots and manipulators and before using repeat plans.

We proposed recently an amendment for the estimate of efficiency in the deployment of automated technology, which would give a better account of the costs of saving of workers. The FMTIR [Federal Ministry for Technological and Investment Development] is working on the amendment; it will improve the indicators of returns for the assessment by the Czechoslovak State Bank.

[Cop] We have a standard plan for the establishment of automated workplaces. Our analysis of future users will estimate their technical and economic prospects. The plan will not be implemented if the returns on investments are expected in the foreseeable future. Sometimes, however, we cannot think along those lines; we must intentionally disregard economic criteria where it concerns, for instance, unsanitary or physically taxing labor, such as spraying hot forging or monotonous work.

[Question] Just the same, we have heard some views that introduction of robots means an economic burden for the enterprise.

[Cop] I can give you a positive answer to that. When we began gathering our initial experience in capitalist companies, nobody there would tell us about the results they had achieved. Once in a while they would say: "We are not interested in that. We realize that in the beginning this technology will be inefficient." And yet the dollar is their fetish. Here we want to robotize a workplace and right away we ask how much will it bring. That question is not appropriate. Well, no matter whether there are 10 robots or only 1, they need 1 maintenance man for their mechanical parts, 1 maintenance man for their electronic parts, 1 maintenance man for their electric parts, 1 programmer.... As for their breakdown rate, after all, the breakdown curve dips with the period of their use. In other words, robots cannot be efficient unless deployed in a group and operated in several shifts.

[Damits] Our plants do not even take advantage of the greatest benefits robots offer--operation of the machinery in several shifts. We could double our production in the existing spaces. Thus far the managers have failed to give this option proper consideration.

[Cop] The efficiency of the operation of robots is essentially determined by planning. This does not mean in the least the selection of the workplace, the decision: we shall start here, here we shall repeat this setup, we shall remodel and update this place. Robotization cannot be implemented as supplementary rationalization. New capacities are under construction, but their plans have failed to take into account this technology. New plants are being built on the premise that their production assets will not include robots--and such plants have to be adapted later. And yet here we have a chance to plan new investments as really modern projects. I have seen this, for instance, in the NISSAN Co in Japan where after the installation of new technology 600 employees were replaced with 60. Only three types of employees work there: planners, technician-programmers and the repairmen-diagnosticians.

[Question] The problem is that in most cases our users will have to use outdated workrooms and also to maintain outdated technological equipment. Thus, what chance have robots without additional construction?

[Cop] There is no other solution but to plan new ground arrangements in view of the flow of materials, connection with transportation, organization of labor, and safety. Substandard planning of these factors has caused major problems, for example, in Kovolit in Modrice. At least a limited space must be allocated for the deployment [of robots]. Machines in an old shop in the Jihlavan had to be pulled off their base and rearranged according to a new group plan. However, higher production per square meter will make up for the use of more extensive areas. Part of a store room in the Kovolit in Modrice was cleaned and gradually casting machines with robots were placed there.

[Damits] Poor results have been achieved even after remodeling of machinery because its automation led to excessive breakdowns in the automatic cycle. We have a practical example from a pressing plant where a machine was automated although originally it was built for intermittent operation--rest, work, rest. As soon as the press began operating continuously, the coupling got overheated, the motor burned. Thus, more extensive remodeling was needed. In the end, it may seem that the breakdown rate is also affected by the structure of the workpiece which is not adjusted to the gripping mechanism. This does not imply that one can work with nothing else but new machines, but this is precisely why planning is so crucial.

We have 2 years of experience gained in Mlada Boleslav. An excellent team of individuals met there. They were not concerned only about giving the plant a modern appearance, they were after decisive practical results. For 6 to 9 months we enjoyed really excellent close cooperation in solving problems of deploying robots in operation. There always must be at least two partners:

the user who wants to translate an idea into reality, and the one who does the installation. Neither of them can forget that the operation will need "tuning." A balanced zone of reliability can be achieved no sooner than after 2,000 hours.

[Question] Interested parties will need consultation. Whom would you recommend besides Modrice, Jihlavan and Boleslav?

[Cop] I could mention, for example, MEZ [Moravian Electric Appliances Plant] in Mohelnice where one of the first group deployments, a workshop with six to eight robots, will be located.

[Question] Will the manufacturers deliver complete robots, with tools, or let us say, with "accessories," or is it envisaged that separate production of such parts will be established somewhere else? In the case of machine tools we can see our weakness. We make a good machine tool but then we do not deliver containers to store the workpieces, too sets, etc.

[Damits] According to our conception we must reach the stage of the so-called "robot-machine" model system and use plans repeatedly, and then we can also manufacture accessories in lots. Strojsmalt was assigned this task of the state goal-oriented program as a directive. Such a model selection as stepping conveyors, storage containers, inverters, suspension lines represents about 8 to 10 tools. The rest has to be custom-made in most cases.

I should like to recap what has been said: appropriate engineering-planning organizations must establish emergency service. For such emergency capacities we allocated about Kcs 3 to 4 million from the Kcs 20 million production.

[Cop] We also supply complete model accessories and we conclude contracts with the user for the manufacture of special equipment. As the institute which guarantees the installation we must submit documentation for the plans. In the GDR, this role has been turned over to the user who takes care of the production of special parts.

[Question] This may be possible in the GDR because every synidcate has a rationalization center specializing in the production of jigs. How are such problems solved in the USSR?

[Cop] We are very well acquainted with the experience in the USSR. They are using prototype plans. Neither our partners with whom we developed the UM 160 nor the ENIKMASH consider their work finished until they have the whole set of accessories. We are trying to apply this principle in our country, but it is far more difficult because one design may be repeated only several times in our country. Since we cannot build new factories to manufacture a few pieces, we must manufacture those few pieces in the existing capacities. We requested the general directorate of our ministry that it set aside 1 percent of production for the manufacture of such parts. This required an order by the minister. In the GDR 6 to 10 percent of the volume of production has been allocated for this purpose.

[Question] Does a single guarantor deliver complete units of industrial robots or manipulators--except for the accessories of which we have spoken?

[Damits] We have a service contract with Tesla in Kolin which supplies NS 910 and NS 911 control systems; in our country we even have a joint service center for East Slovakia Kraj. When our technicians are dispatched to service a malfunctioning control system, they take with them our spare unit, let us say, the memory. Then we have the removed unit repaired at our own expense, because it often may involve a negligible charge which, however, may lead to enormous losses. In such cases we try to get along without the services of Tesla in Kolin.

There are two ways to safeguard the operation. The user must obtain spare parts for replacement; the more the part is prone to break down, the more units he must keep on hand. The other way is the organization of joint service centers. We have a contract with the chair of automation and production machinery at the CVUT [Czech Institute of Technology] in Prague, whose director is Prof Bretislav Chvala, ScDr, and we are drafting another contract with the Institute of Technology in Brno and with the association of research institutes at the VUT, whose director is Prof Jiri Sury, ScDr. We shall build regional service centers and, according to the need, we shall update them so as to fully guarantee engineering planning operations.

Of course, every user must provide so-called basic service on his own. Last year alone we trained about 280 workers, about half of them precisely for this kind of diagnostic and service work in the user's location.

For the time being, this system is adequate, because the number of robots is not extensive, but in the future, when thousands of them will be in operation, it will be imperative to finish the construction of central services. We are planning to organize joint service centers, association of manufacturers, or possibly to continue the program that has already been developed in Brno and Prague.

[Question] You have mentioned the association of manufacturers. How did the colleges get into the picture?

[Cop] Because today they operate the best available equipment with measuring technology and they can offer excellent advisory services. I have seen several excellent examples in operation abroad. It is to the advantage of the educational institute as well: this way it keeps in contact with practical application, which the school needs. By the same token it may find a topic for its research.

[Question] What kind of employees do the users send you for training? What is their capacity in their mother plant?

[Cop] Last year we registered even managers from the Ministry of General Engineering, from the Ministry of Electrical Engineering Industry and from the Ministry of Metallurgy and Heavy Engineering. This is not insignificant. This is a new field and all its aspects must be studied in a differentiated manner.

In general, we are training three types of experts: the planner who selects the places of application and prepares the technological plan, then the technician-programmer, or "coordinator" according to the old concept. This link with programming is new. The third category concerns repairmen-diagnosticians.

[Damits] Information on industrial robots and manipulators proceeds in two basic directions. One is education in institutes of higher learning--in this respect the most advanced is the Engineering Department at the Institute of Technology in Kosice. At first it began training students in the field of "automation and control technology." At present an interdepartmental study course is planned for the field of "robot technology." According to our information, training is under way in the CVUT in Prague and also in the VUT in Brno. Our most recent research indicates that the Slovak Institute of Technology in Bratislava also offers this kind of training.

Along with preparations for a regular study course for new graduates, some institutes of technology are planning--and a few have already begun--postgradual courses scheduled for four semesters.

Another area for cadre training is at the level of the ministries. Our institute has a Department of Automation Technology where we train the users. Before robots are installed in a workplace, the employees of the users get acquainted with the function of the machine, its operation, maintenance and diagnostics, in order to be able to repair certain defects expeditiously, or to learn how to identify correctly the defect for our service of guaranteed maintenance. Moreover, we are training planners for automated technological centers equipped with robots. I should like to mention some of the 1981 achievements: 103 participants completed the course for users and 176 employees of 90 organizations completed the course for planners. Obviously, the 1-week course for planners must be extended to 2 or 3 weeks, but the 1-week course for users seems adequate.

[Question] What does your research production unit produce?

[Cop] VUKOV is conceived as a research-production unit only for testing series of robots.

[Question] Then the association is not responsible for deliveries to our national economy?

[Cop] This calls for further explanation. Today it simply is no longer possible to start a research program. We have to overcome two additional difficulties: to introduce the achievements of research into production and then to achieve efficiency in the user's establishment. This whole cycle must proceed under one management. We can overcome the first problem by producing a testing series, by catching every "bug" in our institute, and only then we deliver the planned production to the manufacturer. Moreover, we supply the producer with accessories for the first year of production.

The second problem concerns the user. If he is interested in new technology, who will be his planner, who will supply the accessories, who will advise him how to use them? We stopped this merry-go-round by organizing a facility for overall solutions of problems, from planning up to assembly, and putting them into operation. Here you have an operating center, there another one, and a third one. We derive from them topics for further research, for improvements. This is the meeting ground where people meet people.

Next, this is a question of maintaining the operation. How shall we build the service centers? Why not build in our republic 10 service and advisory centers under one roof? In my view, this is a realistic concept, precisely because of the research-production association which will promptly find its way to potential manufacturers and users.

I cannot imagine any other way to introduce new, distinctly progressive technological plans than with the help of the research-production association which unifies the interests and brings problems to their practical conclusion.

[Question] Could we therefore sum up the situation approximately this way: training of users is under way, the needs have been assessed, but demands are three times higher than our production capacities can cover?

[Cop] We cannot put it this way. In this 5-year plan sales for 1981 and 1982 are covered, and the 1983 sales are taken care of as well, however, not those in 1984 and 1985. We can increase production, but we do not want to keep robots in storage. The problem stems from the situation in training, from the users' notions concerning the use of manipulators, the place and the results of their use. It is obvious that these elementary notions are lacking. Thinking has not reached a point where engineers in particular, as well as others, would be concerned about their efforts to utilize fixed assets more efficiently and to increase their efficiency by operating them in shifts. They would not stop arguing about the shortage of workers. We know that there are people available, the only thing is to release them from jobs which no human being should be doing.

Thus, robot feedback stirs up reaction in unexpected areas. "It affects its environment by reverse reaction," however, in other ways than the lexicographer suggested. By its effect, technical knowledge not only reaches out in a wide fan of subdeliveries but also updates economic thought and organizational structure; people are beginning to think more intensively about methods of achieving higher productivity and improving technology, about better methods of calculation, and about what is, and what is not, efficient.

It seems that several additional fundamental problems still call for solution:

--to consolidate political work among economists and to make them understand how manipulators and robots can help them in the near future to resolve the problem of better utilization of fixed assets mainly by increasing the shift rate;

--to organize expert planning of investment programs;

--to expand planning and advisory services, to finish promptly adaptive model plans and recommendations;

--to adjust flexibly the planned volume of manufactured and deployed robots and manipulators with regard to the quantities of the already deployed or planned units operating in comparable countries;

--to organize flexibly the production of components and nodes, or, if necessary their import.

The objective of this all is to use robots as an efficient aid in eliminating the bottlenecks in our national economy. No more, no less.

Box

What is the difference between manipulators, special, universal, assembly robots and lines:

They differ in the following technical characteristics:

--the extent of programmable position in a single cycle,

--the flexibility in changing the program of operation,

--the scope of adaptive characteristics--and other considerations.

The differences in the levels of automation stem mainly from the technical level of the control and monitoring systems and of the interlocking and data subsystems. In conjunction with the type of the cooperating machinery and the type of the required operation, the following classification may be applied: manual manipulators, solid-cycle manipulators, manipulators with flexibly programmable cycles--robots, adaptive industrial robots, single-purpose industrial robots and manipulators, manipulating systems, automated technological processes and production systems.

Manipulator (the model series of industrial robots and manipulators of the CSSR classified with the letter M) has a simple control, its linear or rotary lift has fewer, usually no more than two positions.

Industrial robot (designated by letters PR) is controlled by a higher type of control system, has interpositions on all axes.

The number of model designation indicates the loading capacity in kg.

The classification has economic reasons as well: automation levels differ by a factor of from 2 to 10.

Who makes what:

CAZ [Czechoslovak Automobile Plant] in Prague (BAZ in Bratislava): RMZ 200, ML 40, M 63 RMS 63H.

CHEPOS in Brno (Vihorlat in Snina): M 63, MTL 10, UM 160.

STROJSMALT in Bratislava (Strojsmalt in Medzev): Operational and interoperational handling devices for industrial robots and manipulators.

SKODA in Plzen (Skoda in [illegible] (Ari)): PMS 110, PMS 180, PMS 250 (PMS--pneumatic pedestal manipulator); PMZ 110, PMZ 180, PMZ 250 (PMZ--pneumatic suspension manipulator).

TST in Prague: special-purpose manipulators for machining and profiling equipment.

ZSE-ZEZ in Horice: PR 32 in adjustment to spot resistance welding.

VUKOV in Presov: Prototypes and testing series of industrial robots and manipulators, atypical accessories for final assembly of technological workplaces and automated production systems.

ZAVT [Data Processing Equipment Research and Development Base] in Prague (ZPA [Instruments and Automation Plants] in Presov): PR 16, PR 4, M 4, AM 5.

ZTS [Heavy Machinery Enterprise] in Martin (ZTS in Detva, ZTS in Kosice): PR 32 E, M 63, AZP (automated welding operations), KMZP (Comprehensive mechanized welding operations).

Some successful applications:

AZNP [Automobile Works National Enterprise] in Mlada Boleslav: in pressure casting.

Jihlavan in Jihlava: in machining (an article describing its introduction will be published in HOSPODARSKE NOVINY).

PLYNOKOV in Hustopece: in surface profiling.

SKLOUNION in Teplice: in glass industry, operations in the production of neon tubes.

UTAR in Bratislava: model work place for machining.

ZTS in Detva: welding workshop with Swedish robots.

ZVS in Dubnica: in control of transformers.

Examples of industrial robots and manipulators manufacturued at present: PR 4 and PR 16 industrial robots: industrial robots: with pneumatic drive designated for automated handling operations of unit components up to 4 to 16 kg in profiling, machining and related handling technologies.

PR 32 industrial robot with electric drive designated for automation of technological and complex manipulations (for example, electric arc welding and resistance welding, cleaning of castings) up to 32 kg of the treated object and at lower velocities of motion, up to 63 kg.

M 4 industrial robot with pneumatic drive designated for handling operations with components weighing up to 4 kg in technology of surface and bulk profiling.

Modification of portal, pedestal and upright manipulators on the basis of M 63 manipulation building-block system with hydraulic drive. They are designated for handling operations of parts weighing 20 to 63 kg, mainly in machining of flanged and shaft parts, pressure casting and for the construction of automated production systems. Special MTL 06 manipulator for automation of pressure casting machinery was developed in this system.

ZPA in Presov has developed and manufactures control systems of sensors and their components:

RS-1 control systems for control of industrial manipulators and simple robots.

RS-2 control systems on the basis of programmable Tsla NS 900 and NS 910 automatons; designated for industrial robots and manipulators with spot control (PTP).

RS-3 control systems on the basis of Tesla 660 system with the use of microprocessors, designated for robots with travel control (CP).

Model BIP 40 and DMP 01 contactless path indicators.

Achievements of international scientific-technical cooperation: With Soviet organizations ENIMS of Moscow, ENIKMASH of Voronezh and NIISL of Odessa, the Research Center for Metal-Processing Industry in Presov has developed, manufactures and tests UM-160 equipment for operation of machining equipment, AM-5 for operation of profiling machinery, and MTL-10 for operation of pressure-casting machinery. Furthermore, the plan for cooperation includes also the development and production of automatic manipualtors with programmed control (for example, technological systems for paint spreading, automatic manipulators for electric welding and for assembly in electrical engineering).

The operational program for cooperation with the Bulgarian People's Republic in 1981-1985 envisages unified manipulation systems Pirin (Bulgarian People's Republic) and AM-63 and AM-80 (CSSR) which will make it possible to construct jointly robots of the modular type.

9004
CSO: 2400/368

CZECHOSLOVAKIA

FEWER INNOVATIONS, IMPROVED INCENTIVES DESIRED

Bratislava PRAVDA in Slovak 26 Aug 82 p 1

[Editorial: "Questions About Efficiency Program"]

[Text] In recent years the concept of "lazy brains" has come into use in economic literature. This is a designation for those who are satisfied with what they have already achieved, who do not want to complicate their lives by struggling toward anything new; competition, initiative and an enterprising spirit are alien drives to them. It is clear that such people not only do not help our society but at this time of relentless struggle to build our economy they are putting a brake on further development. But just making this assertion is not enough. If we are to speed up overcoming the many problems we face in our national economy we have to try to find out why such "lazy brains" cannot be aroused from their lethargy and harnessed to the societywide efforts to increase efficiency and the quality of work. After all, creativity and activity are a vital necessity for man and if we often feel otherwise in the daily reality of life then something is out of order.

For instance, let us take the work of the Comprehensive Efficiency Brigades [KRB]. These teams are, by their very character, set up precisely for creative work, to seek new, nontraditional methods exactly where our society needs them most--to implement the results of science and technology in production. Without accelerating the reserach-development-production-utilization cycle, as currently repeatedly emphasized in resolutions of the highest party and government bodies, we cannot expect any progress in the intensification of all work. Surely everyone understands the importance of their work but so far it is not properly reflected in practice. A study made by the Slovak Trade Union Council [SOR] showed that in 1981 there were 4,300 KRBs working in Slovakia, which was actually 69 more than last year, but the number of members in them feel by almost 800! Particularly alarming is the fact that the number of workers in them fell by almost a thousand. This is really a very grave warning, since it was last year that the Set of Measures for Improving the Planned Management System of the National Economy was put into effect nationally and its implementation is also supposed to stimulate initiatives for the broad application of research and development.

The facts ascertained by the SOR, as also stated in the report of the Federal Office of Statistics on development of the national economy and plan fulfillment in the CSSR in the first half of 1982, that "results achieved in the area of research and development, the speed and extent of their application in practice still do not correspond to our potential nor the requirements for development of the national economy" testify to the fact that our ministries, VJHs [economic production units], enterprises and plants are in most cases proceeding essentially in the same old ways. For example, at the Central Slovak Canneries and Distilleries in Rimavska Sobota only one KRB was operating last year even though the plant is struggling with many problems which are due to obsolete production equipment, a high rate of machinery breakdowns, not the best working conditions and unresolved problems of handling materials, etc. At the CHZJD [Juraj Dimitrov Chemical Works] in Bratislava there were 406 persons working in 20 KRBs (of which only 49 were workers) which meant 3 teams fewer than in 1980. They say that this drop in the enterprise is because the assigned tasks had been completed. The question remains, however, why have no newly formed teams begun working in the meantime? Many, many similar cases could be cited. Apparently in our enterprises they are not aware of the great importance of collective technical creativity in raising the level of production and how essential it is to combine into a single team the know-how of the workers, technicians, technologists, designers, master craftsmen, economists, researchers and scientists. Well, undoubtedly they realize it but are too complacent to do much to support the KRB campaign.

Work in an efficiency brigade is voluntary. It is extra work, above and beyond the working contract. The driving forces in KRBs are persons for whom work is not just a duty, but often also a hobby, persons who care about the technical standards and costs involved in their plant's production. So it would seem that in that case the question of motivation does not obviously come to the fore. And yet that is a basic misconception. Above all, one must build on initiative, but building on it alone is not enough. If such efforts are not also rewarded financially and if the conditions are not right for the work of the KRB then the efforts of even the most industrious workers are undermined. Everyone, whether consciously or not, compares his earnings to those of others. If a person finds out that over a period of time he is not being paid for his work in accordance with his qualification and results achieved and no one even tries to give him an explanation, is it any wonder that his former enthusiasm slowly but surely flags. The means by which KRB initiatives are currently being rewarded financially in many of our enterprises do not inspire creativity but are rather a means for teaming initiative. They have done away with the former practice of rewarding according to the social savings achieved and consequently they also lost the stimulus for delivering work in the fastest and best way.

You can take exception and say that money is not the only measure or only possible appreciation for initiative. This is, of course, absolutely true, but on the other hand, financial rewards also have their moral and political effect, because they show how society values the work performed. Naturally, work that the national economy needs most urgently should be rewarded better. But are all the conditions necessary for this in place? Perhaps not, since the following written by the Soviet academician Vadim Trapeznikov, is also very pertinent in our case: "Consideration of the human factor, especially maximum support and stimulation of people's initiative is of very great importance. Over the years, however, a lot of all kinds of instructions, explanations and restrictions have accumulated. The industrial manager, who is responsible for running an enterprise with production in the hundreds of millions of rubles cannot be bothered with several hundred rubles, especially if it involves pay. These kinds of restrictions lead to constraints on initiative, sometimes to apathy and usually also to looking for alternate means." And let us add that right here we would be able to find the germ for cultivating "lazy brains."

Together with rewards, however, greater attention must also be given to organizing the activity of the KRBs in such a way that they operate not only in sufficient numbers but that their work also contribute to improved quality and efficiency of work in our key sectors. In essence, this means increasing the participation of workers in management, giving them the opportunity to express and support their opinions about production problems, discussing matters more with them, looking for inspiration from experience and not outside of it. It is well known that the supervisor who does not hesitate to ask an opinion of a line workers has more authority than one who makes all decisions solely in his office. If a supervisor has no direct contact with operations or only in formal encounters, then this is again a step toward the propagation of "lazy brains," because people will say, "Why put forth any ideas, any initiative, he'll just do things his own way anyhow." Here is where the role of the party and especially of the union organization is unique, since it cannot allow initiative to be wasted like this.

A big problem in further development of KRB initiative is burgeoning administration. On the one hand, it is absolutely essential to have good statistical accounting, without which efficient management is impossible even in this area. On the other hand, however, not only the leaders of the brigades but especially officials at plants and enterprises who are responsible for this campaign are overwhelmed with administrative procedures. It often happens that they fail to see the human being behind the figures, they are concerned with statistics and information instead of human labor and this does nothing to advance the development of competition. In this connection, attention should be given to the officials for socialist competition and efficiency in general, to see to it that they get to know the persons on the teams with whom they work and whom they should, together with the supervisory workers, not only organize but also educate.

The question marks about efficiency which life itself poses are ripe for answering. But this is not one of those insoluble puzzles, since workers, if they have the proper conditions, want to overcome the problems. For example, in the Dechtochema South Slovak Cellulose and Paper Mill in Sturova, where a KRB was born, thanks to the initiative of the workers, technicians, master craftsmen and other plant personnel who joined forces with specialists from the Department of Automation and Regulation of the Slovak Institute of Technology Electrotechnical Faculty, they were able to devise in a short time a winder for an automatic impregnation machine controlled by a microprocessor. This unique equipment which is on the highest technical level will bring about greatly increased efficiency and quality of production, savings in electricity and reduce the physical strain of servicing, etc. In this case a key role was played not only by initiative and expert knowledge, but also the organizational work of the party organization and plant management, support of the enterprise and general management expressed by creating proper conditions for the KRB work and appropriate material rewards to the successful team. However, it is important that such examples not be the exception but become the rule.

8491
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GENERAL ENGINEERING INDUSTRY RESULTS SUMMARIZED

Prague HOSPODARSKE NOVINY in Czech 10 Sep 82 p 2

[Commentary by Jiri Poslt, deputy section head, CPCZ Central Committee: "General Engineering"]

[Text] Meeting the objectives of the Seventh 5-Year Plan calls for systematic implementation of substantial increases in intensification of the economy, improved efficiency and quality of all labor, effective structural changes based primarily on accelerated and maximum utilization of the results of scientific and technological development, expanded participation by the CSSR in the international socialist division of labor, primarily with the USSR, and continuous upgrading of planned management with increased participation by the workers.

These principles were adopted by machinists and are being implemented by them in the production process.

Since the beginning of the year, the sector has been exceeding the planned quota in goods production by Kcs 509.8 million (100.9 percent). The attained proportion in meeting the plan (56.4 percent of the annual plan) in comparison with the same period of last year, with an identical number of working days for January-July, is higher in the current year; production increased by more than Kcs 0.5 billion.

In comparison to the preceding period, the number of enterprises that failed to meet their monthly quotas increased from 16 to 21 but the deficit decreased to almost one-half (Kcs 48.8 million). Selected specific products are being provided according to plan, with the exception of machine tools and textile machinery. Production of spare parts exceeded the half-yearly plan by a total of Kcs 182.5 million, with a proportionate share of 50.3 percent of the annual plan. Some smaller deficits occurred in the case of spare parts for refrigeration and freezing systems, diesel engines, shoemaking machinery and printing machines. The demand in this assortment is inadequately met for automobiles.

Another improvement occurred in the share of products with a high technical and economic level in the total production of goods. In comparison with the same period of last year there was also an increase in the value of products categorized in the first-quarter class by almost one-third and the share of technically advanced products by approximately two-thirds.

In followup to generation of material resources, the sector is also meeting individual categories of utilization of production. Deliveries for exports to socialist countries achieve relatively high shares of the annual plan (54 percent in wholesale prices and 53.5 percent in freight-free prices). The highest share was achieved in exports to the Soviet Union (55.6 percent in freight-free prices).

Deliveries for export to nonsocialist countries were characterized in the first half of the year by adverse effects resulting from changed conditions on foreign markets. Particularly lagging was exportation of textile machinery and machine tools and, to some degree, tractors, as well.

A substantial increase in deliveries has occurred recently on the basis of measures adopted at the sector level as well as at the level of VJH [economic production units] and the organizations they manage. In the second quarter, the attained share of the annual quota amounted to 29.2 percent in wholesale prices and 27.5 percent in freight-free prices. Thus, meeting of exports to nonsocialist countries amounted by the end of the first half of the year to 52.4 percent in wholesale prices and to 49.5 percent in freight-free prices.

Deliveries of machine products for the domestic market are also higher than they were in the comparable period of last year. Exceptions are freezers, enameled steel bathtubs, electric water heaters and meat grinders that are of higher priority for exports.

A department of the Ministry of General Engineering monitors 61 specific innovations of products of a consumer-oriented nature; 27 of them are already in production and are supplied for the market.

Implementation of investment construction and completions showed no substantial improvement. A higher share of capital expenditures was drawn upon for construction projects with a budget in excess of Kcs 2 million than for all construction projects put together.

The plan called on the sector to complete four of the monitored construction projects in the first half of the year. Two of them saw completion, namely the second construction project in Banovce for the Tatra plant in Koprivnice and turboblowers for the Czech Motorcycle Plant in Strakonice. Another one--Strojsvit in Krnov--could not be supplied with heat in winter, because of a failiure to create the requisite conditions for continuous assembly of technological equipment. This project will launch operations by November of the current year. The last construction project--a machining plant in Sabinov--failed to be completed by deadline due to additional requirements of the hygienist for improving the quality of insulation.

A favorable development between the 2 years was registered in increased productivity of labor, which provided for an increment of gross production on the order of 80 percent. The average wage increase (102.3 percent) is in the desired ratio to the attained increase in productivity of labor from adjusted value added (106.3 percent).

In manpower structure, compared to the averages of last year, there occurred a moderate increase in the number of workers (up from 64.9 percent to 65 percent) and a decrease in the share of technical and economic personnel. In absolute numbers, this translates into an increase of 2,218 workers and a decrease in administrative personnel of 1,125.

The shiftwork coefficient increased in comparison with the comparable period of last year by 1.2 percent, i.e., up from 1,282 to 1,297.

The developmental trend in inventories up to now is still unsatisfactory. In spite of all the measures taken, there occurred only partial improvements in comparison to the first quarter. For the sector as a whole, the planned total targeted inventories was exceeded by Kcs 1.5 billion and regulated stockpiles by Kcs 1.2 billion. The turnover time for overall inventories is slower than called for by the plan for 1982. Exceeding of the quota accrues to a major extent to three VHJs, namely: Czechoslovak Automotive Plants in Prague, Plants of Machining Technology in Prague and the Heavy Machinery Plants in Martin.

Savings in costs of materials (Kcs 260 million) in excess of the plan, and in total costs (Kcs 316 million) had a positive effect on generation of budgeted returns which at the conclusion of the first half of the year were exceeded by Kcs 450 million.

Successful accomplishment of profit-generation simultaneously also affected the level of returns on investment for operating assets which increased 6.9 percent in comparison to the same period of last year.

Real and proportionate meeting of the plan is subject to regularly scheduled reviews.

Meeting of the tasks assigned to general engineering by the 16th CPCZ Congress will call for paying increased attention to an even more resolute dealing with export needs with higher valorization of products. At the same time it will also be necessary to provide for deliveries of advanced technology for investment construction and innovation of consumer products in the machining sector.

To provide for high efficiency of production and of the entire economic reproduction process, it will be necessary to continue dealing with problems attendant to regulatory processes, to lower nonproductive costs, costs for poor-quality production, and to continue to increase the number of products eligible for preferential pricing because of their excellent quality. Hand in hand with the above, provisions will also have to be made for promoting the growth of qualification and specialization.

The key tasks of the general engineering sector can be considered exports to nonsocialist markets, production of the demanded assortment in all categories of utilization of production, primarily in regard to spare parts. In regard to consumer goods, the sector will have to meet the planned innovations and improve the assortment of goods in deliveries for the domestic market. Production teams will have to continue looking in preproduction stages for further potential savings of fuels, energy and metals.

A good deal was accomplished in the first half of the year. The attained results were on the whole good, but that does not mean that there is nothing that could use improvement even in the case of enterprises and plants that keep meeting the plan. What is involved in the case of the latter is increased emphasis on quality and on efficiency of labor.

Errors and shortcomings, unused resources and other possibilities for development of production cannot be uncovered at workplaces and in plants by decrees or directives from above. This must become a concern primarily for communists-responsible managers.

8204
CSO: 2400/384

BANK RAISES INTEREST RATES AGAIN

Budapest FIGYELO in Hungarian 9 Sep 82 pp 1, 7

[Article by I. W.: "The Increase in Interest Rates"]

[Text] Interest, which influences the income of depositors and the costs of those using credit, is an important tool of economic-financial regulation. Thus the level of interest must influence the flow of money on the one hand and must encourage efficient use of monetary assets on the other, shortening the repayment time for assets.

In the interest of increasing the efficiency of money use and strengthening the willingness to save, the Hungarian National Bank has increased interest rates a number of times in recent years, most recently on 1 July 1982.

Adjusting to the International Level

In addition to the above fundamental goal the goals of raising interest rates are also interdependent with the fact that the domestic interest level lagged behind that of international credits. With the western interest rates rising in recent years a considerable negative gap arose between the "price" of credits and the income from its use.

The ratio shift is noteworthy also because since 1980 international prices have been realized to an ever broader extent in the price system and the rates of exchange have followed, week by week, the rates and ratios which developed on international money markets.

At the end of 1981 and in the first months of 1982 interest rates reached a record level on international money markets. A domestic adjustment to interest rates at such very high levels would have made necessary a great increase in rates (it would have been necessary to increase the average level by about 5-6 percent). The financial effects of this would have been intolerable for the enterprises and--according to most western experts--the high interest level was unrealistic, forced by the American government, and it aroused a protest from West European governments. The Hungarian financial system could not follow these unrealistic and temporary interest rates.

Although the international interest level decreased in the recent past, the "prime rate" interest level of the American dollar is still 13.5 percent, which means that various creditors still pay 14-15 percent interest to US banks. The so-called Euro-interest for relatively short term dollar credits on the Euro-market exceeds 12 percent on relative to 6 month deposits. This justified an adjustment of interest rates to the international level now, when the "gap" previously mentioned is no longer intolerably great. The Hungarian National Bank increased the interest on all bank credit by 2 percent, effective 1 October, and extended the validity of this to all outstanding loans, with a few exceptions.

Preliminary Balance

With this measure the government also intends to put a brake on the out-flow of domestic money. According to the calculations of the Hungarian National Bank the increase in interest rates will increase the costs of managing organizations by about 6 billion forints at the annual level. Where the increase in costs cannot be realized in prices the increase in interest rates will decrease profits, but where there is a way to pass on the increase in costs--by raising prices--the increase in interest rates will increase producer's prices.

The effect on developmental funds at the annual level will be 1 to 1.5 billion forints. The higher interest level--which may contribute to improving the economic balance--will cause no small problems for the enterprises and it cannot be denied that it will have an influence on the buying power of the forint also.

Every enterprise can simply calculate the detailed interest scale because the magnitude of the increase in interest rates is uniform. For example, following the interest rate increase the managing organizations must pay 14 percent interest--instead of the 12 percent general at present--for investment credits or circulating assets credit used by them. In some cases the interest rate will be 15-16 percent, 11-12 percent for preferred credit goals. The interest rate for credits offered as an advance for council developmental funds will increase from 9 percent to 11 percent.

Stimulating Export

In the interest of stimulating export, credit policy offers certain concessions to enterprises. The increase in rates does not apply to developmental credits (investment credits or circulting assets advances) extended prior to 1 January 1981 for the purpose of increasing the fund of goods for convertible export. The rate for these credits is now 8-9 percent and the interest rate for credits to refinance export firm credits is 8.25 percent.

Managing organizations can make use of a 45 percent interest rebate, instead of the earlier 33 percent, for interest on investment credit assumed to increase convertible export, if they satisfy every obligation undertaken in the credit contract. The interest rebate for interest on circulating assets credit used in the interest of export--at present 33 percent--will also be increased to 45 percent, if the ratio of it exceeds 25 percent as compared to the convertible export sales receipts. (If the ratio of export does not reach 25 percent then the interest rebate which can be claimed continues to be 33 percent.) Simultaneous with the increase in credit interest rates there will also be an increase of the same magnitude--2 percent--in the interest to be paid on deposits tied up for a certain time and placed on the basis of the coluntary decision of managing organizations and councils. In accordance with this the interest rate on deposits made by enterprises for at least 6 months will increase from 3 percent to 5 percent, and will increase from 6 percent to 8 percent for deposits placed by councils will be 4-9 percent instead of the present 2-7 percent, depending on the time they are tied up. The new rates going into effect on 1 October 1981 [as published] do not apply to interest paid by the National Savings Bank and other financial institutions, including State Insurance.

In the future changes in domestic interest rates will be much more flexible than in earlier years. The changes will depend primarily on the development of international interest rates and on the requirements for a planned regulation of domestic buying power. This means that the managing organizations must have an understanding of the changing factors influencing interest and costs and must take them into consideration when developing the outlines of enterprise money policy.

8984
CSO: 2500/410

POLAND

JULY PRODUCTION FIGURES ANALYZED

Warsaw ZYCIE GOSPODARCZE in Polish No 32, 29 Aug 82 p 2

[Article by M.: "July Without Illusions"]

[Text] Production in socialized industry in July was 4.8 percent lower as compared to the analogous period of last year. Let us recall for the sake of comparison that the decrease in production in socialized industry as compared to the analogous months of the previous year amounted to the following: in January, 13.8 percent (likewise showing a 13.8 percent decline was industrial production for the entire year from 1981 to 1982) and in February it decreased 11.7 percent. Beginning in March, the indicator showing a decrease in this production as compared to the analogous period of last year fluctuated as follows: in March of this year it showed a decline in production by 6.4 percent, in April--by 6.3 percent, in May--by 2.7 percent, in June--by 3.8 percent, and in July, as we have already mentioned in our introduction--by 4.8 percent.

Just as occurred in the previous months, the decline in production in socialized industry was brought about in July of this year by the processing industry, whose production in comparison with July of last year fell 5.7 percent. The analogous indicator during the first 6 months of the current amount to an 8.9 percent decline (in May and June of this year it amounted to 4.8 percent and hence was somewhat more advantageous than it was in July). On the other hand, production in the extractive industry in July--as in the previous months of this year--was higher than during the previous year. The degree of growth of this production, however, was lower than it was during the first 5 months. In July, as compared with July of last year, the production of this industry increased 6.8 percent, whereas during the first 6 months its increase amounted to 9.6 percent.

A decline in production in July, as was also the case during the first 6 months of 1982, was manifested in most of the branches of the processing industry: in ferrous metallurgy in July of this year by 3.1 percent, and during the first 6 months by 14.2 percent, in the metal industry in the first case by 9.1 percent, and in the second instance by 13.6 percent; in the machine industry the respective figures were 1.0 percent and 10.0 percent; in the chemical branch--2 percent and 11.6 percent; in building materials (a change for the worse)--9.1 percent and 8.7 percent; in glass--1.4 percent and

2.8 percent; lumber (slightly worse)--9.7 percent and 9.6 percent; textiles (worse)--18.5 percent and 6.9 percent; foodstuffs--6.9 percent and 8.8 percent. percent. With regard to the fuel and electric power branch of industry, the decrease in production was noted only in the fuel sphere (in July by 4.0 percent, and during the first 6 months--by 2.3 percent).

Yet the growth of production during July as well as during the first half-year occurred primarily in the branches of the extractive industry. Some 15.9 million tons of hard coal were mined in July of this year, as contrasted with 13.7 million tons in July of last year, which signifies an increase of 16.2 percent (during the first half-year the mining of hard coal in tons grew 16.6 percent). In constant prices, the value of coal industry production increased in July (to July of last year) by 12.4 percent in contrast with 15 percent during the first 6 months of the current year. In the electric power industry in July, production increased 0.5 percent, and during the first half-year--by 3.9 percent. Furthermore, certain increases of production were attained during July of this year in the following fields: in the nonferrous metals industry (in July by 4.7 percent, in contrast to a decline in the production of this industry during the first half-year by 4.1 percent), in the precision industry (in July a 3.4 percent increase, and in the half-year a decrease by 0.7 percent), in means of transport (in July an increase of 3 percent, and during the first half-year a decrease of 10.8 percent, in paper (in July an increase of 6.7 percent, during the first half-year a decline of 2.4 percent), clothing (in July an increase of 0.4 percent, as compared to a 0.9 percent increase during the first half-year). In the fine ceramics industry, where during the first 6 months there occurred a production increase of 2.7 percent, in July there was an insignificant decrease of production (0.1 percent), as compared with last year.

In small-scale industry, production in July grew 1.3 percent, as compared with 1.1 percent during the first half-year.

During July, in comparison with June of this year, in socialized industry the decline of production was quite significant, since it amounted to 9.6 percent in real time and to 10.2 percent in equivalent time. Usually, however, industrial production in July, characteristically being influenced to the greatest extent by the vacation season, was considerably less than in June, and, therefore, a comparison between these 2 months requires that this fact be taken into account.

In the remaining areas of material production, besides agriculture, the situation was similar to that in industry. In construction-installation enterprises, basic production declined 12.8 percent in July of this year in real time, as compared with 11.0 percent in June and 16.9 percent during the first half of this year. Here also there occurred a great (12.8 percent) seasonal decline of production, as compared with June of this year.

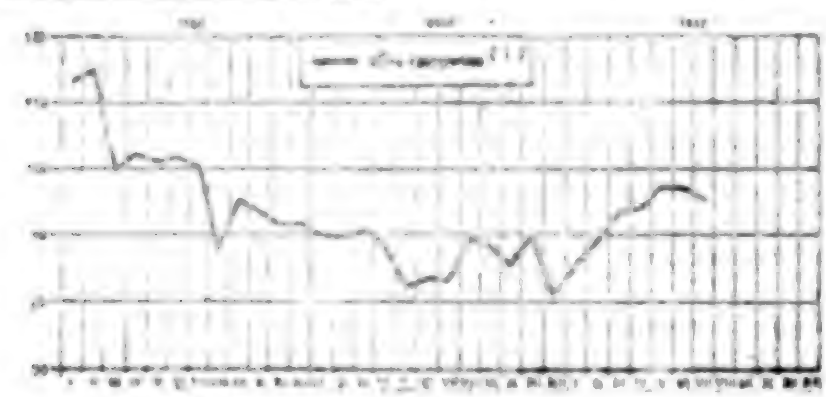
Only 7,200 apartments were turned over for use in July (within the socialized economy). In July of last year, 9,100 were turned over (a 31 percent decline). In June, 14,200 apartments were turned over, as contrasted with 17,700 in June of last year, which signifies a decline of 19.8 percent.

On the occasion of the information being released concerning the socioeconomic situation in July, data were also issued concerning the decrease of investment outlays during the first half of the current year, as compared with the first half of last year. This information was not in the announcement by the GUS [Central Office of Statistics] concerning the first 6 months of the current year because investment reporting is assembled with a certain timelag. And so it turns out that these investments during the first half-year amounted to [illegible] billion zlotys, of which construction-installation operations comprised 206.4 billion zlotys. It has been calculated that the decrease of investment outlays in zlotys, as compared with the first half of last year, amounted to 28 percent, including 20 percent in construction-installation operations.

Freight hauls by socialized transport enterprises amounted in July to 89.7 million tons, i.e., less by 15.7 percent than in July of last year (during the first 6 months the decline amounted to [illegible] percent). The Polish State Railroad on a monthly basis hauled [illegible] percent less freight, while automotive, i.e., truck, transport hauled 24.1 percent less. In June of this year, the analogous indicators amounted to [illegible] percent and 25.4 percent, while during the first half-year they amounted to 3.2 percent and 29.0 percent.

Growth Rate of Production Sold in Socialized Industry (Constant Sale Prices)

Analogous months of the previous year = 100



KEY: 1. Actual figures

The average employment in the basic fields of the socialized economy--in industry, construction, transport, and communications, as well as trade--in July was [illegible] persons, i.e., [illegible] percent, less than in July of last year. This decline amounted in industry to [illegible] percent; in construction, 7.0 percent; in transport, [illegible] percent; in communications, 1.2 percent; and in trade, 2.7 percent. On the other hand, in comparison with June of this year, the average employment in July was 13,900 higher in industry, 7,400 in construction, 3,200 in transport, and 800 in communications.

In the labor market, a further increase was noted in the need for more labor outlays on new workers. The number of job openings at the end of July amounted to 307,500, while in July of last year this figure was 168,800. There was an insignificant decline in the number of persons seeking work by means of the employment offices, and it amounted to 18,900 persons at the end of July.

In agriculture, in crop production weather conditions favored harvesting work in July, and this influenced better grain harvests. But they were disadvantageous for the growth of root crops.

In livestock production, on the other hand, a further worsening in the conditions for economical breeding has been observed.

In July of this year the free-market grain prices reached an average level of about 3,500 zlotys per quintal; as compared to prices from June of this year they showed an increase amounting to an average of approximately 4.2 percent. In comparison with the prices of July of last year, these prices were higher by a factor of 2.5. The high level of free-market grain prices brought about a further reduction in the profitability ratio of slaughter hogs, since the price of 1 kg of pork was equal to 3.7 kg (rye, barley, oats), i.e., by 0.1 kg less than in June of this year and by 2.7 kg less than in July of last year.

In July of this year the procurement of gilts amounted to about 65,000 units and was about 70 percent higher than July of last year. A factor confirming the unprofitable trend in raising slaughter hogs is the gradual decline of gilts being bred, as noted from March of this year and growing deeper with each passing month. Continuing in the second quarter of this year, the number of bred gilts was approximately 26 percent lower than it was during the second quarter of last year. During May of the current year, as compared with the analogous period of last year, the decline in the number of bred gilts amounted to about 18 percent; in June of the current year it deepened to about 28 percent, and in July of this year to about 31 percent.

The price of a farrowing was equivalent in July of this year to 14.0 kg of pork products, as expressed in procurement prices, in contrast to 15.5 kg in June of this year, 23.3 kg in February of this year and 22.9 kg in July of last year. Unprofitable trends likewise became evident in July of this year in cattle raising. The free-market price of cows in July amounted to an average of 39,500 zlotys per unit, and, as compared with the price in June of this year, it declined 1,400 zlotys, while the price of heifers amounted to 26,000 zlotys per unit, and, in comparison with the price from June of this year, this signifies a decline of 600 zlotys.

The above-mentioned unprofitable trends in breeding had not yet fully influenced the lowering of the procurement levels in July of this year.

The procurement of butchered livestock in dressed weight calculated as meat in July of this year amounted to 130,000 tons and was 7.2 percent lower than it was in July of last year, mainly as a result of a drastic decline in the procurement of meat in small-scale amounts--by as much as 84.2 percent. The procurement of beef for food was almost 32 percent higher, while that of hogs was 4.3 percent higner. Milk procurement was 3.1 percent higher than in July of last year, yet the procurement of eggs was 33.8 percent lower.

Overseas monetary receipts by people in July of this year amounted to approximately 275 billion zlotys and grew 59.8 percent, as compared with July of last year, including emoluments for work connected with compensations, which increased 40.9 percent.

Personal emoluments connected with compensations for work in the basic fields this July amounted to 82.9 billion zlotys and were 39.2 percent higher than in July of last year. Emoluments in industry increased 44.1 percent; 30.0 percent in construction, 25.3 percent in transport, 38.6 percent in communications and 40.6 percent in trade.

The average pay for workers wages (not counting compensation for family members) in the basic sectors is as follows: industry, construction, transport, and communications, as well as trade--here it amounted in July of this year to 10,828 zlotys, and it increased 3,473 zlotys, in comparison with July of last year, i.e., 47.2 percent, the average pay with compensations in industry increased 53.1 percent, including a 70.4 percent jump in the extractive industry, 43.1 percent in the processing industry, 40.7 percent in construction, 32.4 percent in transport, 40.2 percent in communications, and 44.6 percent in trade. Let us recall that the average pay with compensations in the four basic sectors amounted to 10,481 zlotys in April of this year, 10,625 zlotys in May of this year, and 10,795 zlotys in June of this year.

Pay from the category of social services, together with compensations, increased 164.2 percent (in July of this year over July of last year). Income from the sale of farm products grew 57.3 percent.

People's monetary expenses in July amounted to 256.3 billion zlotys and grew 69.9 percent in comparison with July of last year, including a 78 percent jump in expenses for buying goods.

The retail sales of goods through units of the socialized economy in July of this year amounted to 232.4 billion zlotys and increased, as calculated in current prices, about 85 percent, as compared with July of last year.

In comparable prices, retail sales in July of this year were about 18 percent less than they were in July of last year, including a decline of about 30 percent in nonfood items. The sales of foodstuffs decreased about 13 percent, though alcohol sales increased approximately 30 percent in connection with the return to free sales of a portion of the assortment of alcoholic products.

From a comparison of incomes with people's monetary expenses, there results an increment in people's money supplies in July of this year of close to 19 billion zlotys. Preliminary calculations indicate that in approximate proportions (of above 9 billion zlotys) people are directing this sum at increasing their savings accounts, as well as at increasing their supplies of ready cash. This means that toward the end of this July the total sum of people's money supplies amounted to more than 1,267,000,000,000 zlotys, including savings account deposits of not quite 785 billion zlotys and people's supplies of ready cash amounting to close to 483 billion zlotys.

The situation in foreign trade during July of this year was characterized by the following figures: exports to socialist countries in current prices amounted to 30.2 billion zlotys, while imports came to 43.1 billion zlotys.

In comparison with July of last year, there occurred a 3.3 percent increase of exports and a 9.1 percent decline of imports. During the January-July period of this year exports to the socialist countries amounted to 254.5 billion zlotys, while imports totaled 279.2 billion zlotys (exports grew 11.5 percent, while imports declined 1.4 percent in comparison with the analogous period of last year).

The tendencies which came to the fore during the current year in turnovers with the socialist countries established changes in comparison with this same period last year, when imports increased strongly, while exports to these countries declined, bringing about an increase in indebtedness. Despite the altered trends, in the future the excess of imports over exports will be maintained. Negative balances in turnovers with the USSR during the January-July period of this year amounted to 34.4 billion zlotys.

Exports to capitalist countries amounted to 29.3 billion zlotys, and imports to [illegible] billion zlotys (in comparison with July of last year there occurred a [illegible] percent decline in exports and a 7.1 percent increase of imports). Exports to capitalist countries during January-July of this year amounted to [illegible] billion zlotys, while imports amounted to 161.8 billion zlotyz (exports increased [illegible] percent, while imports declined 37.4 percent, as compared with the analogous period of last year).

From the GUS information regarding the situation in July we have also learned that [illegible] production and service enterprises have adopted the practice of profiting from foreign-exchange allowances from exports to countries of the second-payments area [capitalist countries], conducted within the framework of the economic reform (which, in addition to the exporting enterprises, has likewise been adopted by coproducing enterprises acting in cooperation with exporters).

The problems mentioned here do not exhaust the evaluation of the economic situation in July. We will attempt to return to some of them in separate publications.

[illegible]
CSO: 2600/[illegible]

POLAND

BANK ROLE IN ENTERPRISE BANKRUPTCIES ASSESSED

Warsaw ZYCIE GOSPODARCZE in Polish No 33, 5 Aug 82 p 5

[Article by Janusz Ostaszewski: "Who Went Bankrupt and Why"]

> [Text] There are 700 uncertain cases left on the bank sieve after some 32,000 enterprises had been sifted with the view of their capability to function profitably. Later on, outside the bank, the sieve's holes were enlarged and it turned out that there are only 50 candidates for bankruptcies. Considering the present economic situation, this is not a high figure. However, these 50 enterprises are employing over 32,000 individuals and should be selling products worth some 400 billion zlotys.

The list of enterprises denied bank credits includes many well-known and established firms. It would not say what are the names of these firms. It is bound by secrecy. Some enterprises do not hide their situation while looking, with the assistance of press reports, for help in finding buyers for the unsellable products.

Why Was Credit Denied?

The bank used a simple criterion: the enterprise had to prove that it had the capacity to pay off the credit. The enterprise's potential in this respect was evaluated by analyzing the level of profitability of its current performance, in 1982, and to what extent its plans of supply and sales were realistic.

Thus, credit was denied to enterprises which in the first half of this year had not achieved financial results that would guarantee their further normal functioning and self-financing of their activity, and ones that did not promise positive results. Such a situation usually resulted from highly uneconomical mismanagement and helplessness. The enterprises, for instance, were planning to have a deficit, and they did not attempt to receive appropriate financing from the state budget. This occurred mostly in those cases where manufactured products are sold at official prices or partially regulated prices. It is not the best testimonial of good work by the founding and financial authorities. Another reason for this situation, mostly, in the building industry, is the fact that prices were not set jointly with the consumers or customers.

Credit has also been denied when the enterprises could not present realistic plans of their activity and ensuing financial plans. In many plans, copied from the old patterns, it was impossible to find the slightest probability that the materials required for the planned production would ever be found. The sales were also planned with an excessive dose of imagination and optimism. Those were not, however, commonplace phenomena. Most enterprises have still managed to stick to the operational programs. At least formally, this has guaranteed the continuity of supplies as well as their complementary character. At the same time, this proves, given their large number, that the operational programs are a misunderstanding. If practically everybody can be fit into them, who has the real privileges, dictated by primary social and economic considerations?

This is the way everything has looked at the beginning.

An Escape From the Credit Guillotine

The first to be hit were some 100 general and social construction enterprises. A decision has been made outside the bank to grant them temporary credit until 31 August 1982. This was the final date by which the system of prices for construction work had to be regulated.

The next group of rescued enterprises, some 250 of them, have received budgetary relief and subsidies, based on Decision No 17 of the Economic Committee of the Council of Ministers. Mainly metallurgy, the remaining part of heavy industry and the machine-building industry have availed themselves of this opportunity. As we can see, those are not showcases of our industrialization.

Also pursuant to Decision No 17, a few enterprises have applied for and received the status of units functioning on the basis of the preliminary schedule of incomes and expenditures. According to the criteria of the bill on rehabilitation of enterprises, practically speaking, they are facing liquidation. Although thanks to this they all have regained creditworthiness, but it is not known for how long. At the moment the payments are made from the budget. The risk involved would not be as high had the above-mentioned law already been in force. The subsidies and relief would have been tied to the programs of rehabilitation of those sick with unprofitability. Without this law, only the hope remains that they will get well.

In spite of the lack of the law and the rehabilitation code, they were both applied by the bank in regard to the last group of rescued enterprises. At the request of the bank, rehabilitation programs were prepared there. After their often repeated analysis, after checking whether they ensure an enterprise's creditworthiness or its regaining, they were accepted by the bank as a basis for granting them credits. Such an approval has been always accompanied by specific conditions requested by the bank. There is no business without taking risks, but risktaking should have some limits. Let us hope for good results of the risk the bank has taken.

Finally, only those 50 tried and sentenced enterprises remain. Their rehabilitation programs have not been positively reviewed by the bank. Nobody has assisted them with a subsidy. Although a large majority of them have managed to have some profit in the first half of this year, it was so small that--after the income tax has been paid, the payments to FAZ [expansion unknown] were made, and the overdue installments to pay off the credit were paid--it did not guarantee their normal functioning until the end of this year.

The work executed by the bankers is without precedent in the postwar history of our economy. A report on the actual state of our national economy has emerged. The cooperation of the bankers with industry, based on the sound principle that the lender must know the borrower, has finally opened the eyes of the decisionmakers of all levels to the basic economic rules which until now they could ignore. Their existence and the existence of the units they supervised has until now depended on entirely irrational factors. There has never been a shortage of money. It is becoming scarce now, although it would be an exaggeration to claim that it is already sufficiently "hard" (to obtain).

The credit whip has therefore fulfilled its role, although it is not yet a finished operation. It has forced the economy to become profitable. It has even turned out that the profitability is unexpectedly high. Would this be another economic miracle? There are no miracles! It is simply a beginning of the new act entitled: implementation of the economic reform.

What Have the Bankers Revealed

Only naive individuals can conclude that the unexpectedly high and quickly gained profitability is the result of a radical improvement of the effectiveness of management. The "schooling" of the managerial cadres in using mimicry has advanced too far to expect their sudden conversion to the true economic faith. Nothing of this sort! Analogously to the ability to reap all the benefits from the ineffectiveness of the order and distribution system have been mercilessly taken advantage of. The ability to adapt has proved to be quite devilish, because it is a negative adaptation. The above facts do not add to the glory of the authors of this system. Although, it is not certain who is to be blamed more: they or the decisions that adapt this system to the really difficult economic, social and political situation.

First of all, the slow process of liquidation of the associations has been exploited regardless of consequences, later the lack of control in compliance of the newly formed industrial unions with the new law is exploited. Reorganization of the middle level of management, which has been conducted leniently, inconsistently, and--I do not hesitate to use this description--quite often against the law, has not crushed or broken up the monopolistic organization structures in industry. The defending factors were the branch ministries, probably also just superficially reformed.

The labels were changed, but the practice of "averaged profitability" has remained in whole branches of industry, the compensatory system, which helps rescue those drowning at the expense of others, has remained. Obviously, against the legal principle of self-financing of enterprises, and not whole branches of industry. The game has been played mercilessly. The real costs were being hidden, and the prices were being hiked, while neglecting --unfortunately, the system has allowed this--everything that could lower the material costs and the costs of labor.

Prices, given the present principles of their setting, have turned out to be an antidote for all the symptoms of uneconomical management and organizational indolence. No wonder that profit has been achieved infrequently, while at the same time the real effectiveness of management has not moved an inch, if indeed the situation is not even worse. How long can one, however, continue to sleep peacefully in this bed? Don't we hear warnings, this time deadly serious, that the ship is sinking?

Why Does the Price System Not Function Properly?

It is well thought out, since it assumes that in the whole area of official and regulated prices, covering basic fuels and raw materials, prices would be set within the limits of optimal profitability, with rationally justified production costs. This principle, however, has been violated by the introduction of contract prices in the whole remaining area, which influences costs in the "official and regulated" subsectors. Contract prices were raising more than was expected, among other things, as a result of the above-presented "adaptation capabilities." As a consequence, most branches, subsectors and enterprises which sell their products at official prices, particularly the enterprises producing raw materials, are close to deficit. They are being subsidized, and we know full well what that means.

Particularly affected by the imperfections of the price system is the construction industry. Its results is an ever more visible clash of the enterprises' interests with the social interest. The general construction enterprises are sustaining losses. They attempt to compensate for them by the (higher) prices that the cooperatives pay for apartments, thus, in fact, by the prices paid by people who wait for many years for their own nook. Can this clash be avoided by subsidizing construction of apartments and social construction? It can be done, but one has to be aware that this solution excludes this huge subsector from the reform. Some other solutions, therefore, are being proposed and published, among others, in this magazine. The decision on this matter has not yet been reached.

The whole remaining part of the construction industry functions on the basis of contract prices. It has gained considerable profit, but this has occurred mainly because the investors, busy with their own troubles, have not yet revalued the costs they will have to bear at the started building projects. They pay the current accounts according to the new pricelist, using credits obtained in previous years. The new agreements are to be concluded after 30 September of this year. What will happen afterward, when the investors begin to count and will conclude that the old credit is ridiculously low? They will ask the bank for a new one. Will they receive it? If not--how are the construction workers going to support themselves? Will they be subsidized?

We are beginning to enter a vicious circle.

The principle of self-financing of the construction industry and investment has not been, therefore, implemented during the current year. Even if it is executed during the fourth quarter this year, which--given the delays--is doubtful, one would not gain a realistic picture of its consequences. And it is not a trifle.

Continuation of the Systems-type Sins

The continuing sin of financial practice, which continues in spite of reforming the system, is maintaining organizational-unit [plant and equipment] subsidies. The founding institutions, first of all ministries cannot rid themselves of this pernicious practice. The possibility of organizational-unit subsidizing helps them to assist the existing enterprises at any price, regardless of the consequences. Partial subsidies are being granted without a thorough analysis of the practical possibilities of changing the production structure within the context of branches or subsectors. Maintaining the status quo is the prime concern, although we all feel the heavy burden of the old structure.

Once more we are recalling here the law on rehabilitation of enterprises. Some of the enterprises, generously endowed by the ministry, have not regained creditworthiness. Why would they bother to gain it? If they are paying today, they will pay tomorrow too.

The binding tax system does not help tidy up the home. The capital gain tax, in its present version, does not prevent the enterprises from accumulating irregular profit, regardless of the degree of progression. It results from treating equally profit gained owing to the freedom of juggling with prices, and profit which is a consequence of better management and effectiveness of an enterprise's work.

The incorrect profits result also from the artificially lower production costs in the first quarter of this year. It happened because of the delayed and imprecise principles of revaluation of stocks. It all has lasted too long, and the enterprises were fast enough to sell their products at the new, higher prices, products which were made from raw materials they had bought cheaply and kept in their storerooms. Thus, the budget lost a considerable part of the projected revenue. According to the bank's opinion, it is such a large-scale phenomenon, and the scale of distortions is so great, that they are practically impossible to define. The sums involved can even reach many tens of billions of zlotys. Naturally, it influences the level of profitability, which has been attained without any effort or work. There is profitability, but there is no effectiveness. Somebody simply is being charged for his assentmindedness, and it is not difficult to guess who it is.

And the last matter--obligatory credits and their consequences. This involves permanent and compulsory credits for the enterprise's lasting needs up to 70 percent. First of all, this principle undermines credit time limits and the obligation of repayment, while at the same time it weakens and almost eliminates its motivational function. Under these conditions, enterprises do not feel they need to look for ways of limiting their permanent needs and their self-financing by lowering costs or speeding up the turnover of funds. This obligation also limits the effectiveness of a strong incentive in the form of bank interest rate.

What Next?

A thought arises at this moment that only the bank took the reform seriously, it sped forward, and the rest of the crowd hurriedly started to pull the reins.

Lack of the inner unity of the systems accompanying the principle of enterprise self-financing causes continuing inflationary tendencies. They neither influence supply effectively, nor do they slow down demand, since they do not act as a motivational factor as far as the growth of production is concerned. It is illustrated by the paradox of increased profitability attained owing to the price movement, with a simultaneous lowering of the volume of production. Together with the really difficult conditions of the work of enterprises, it is the reason for not attaining sufficient improvement in the way they are managed.

If, therefore, the principle of self-financing of enterprises is not to remain a stillborn idea, we have to decide quickly on joining into one efficient whole the credit system and those "systems" that accompany it, but which lag far behind.

The bank's evaluation should put stress on credit being a source of financing only profitable and efficient activity. An activity that is necessary for noneconomic reasons should be supported by a system of subsidies. Those two should be precisely separated, not just formally. It turns out that in real life the principle of formal division has not reached the decisionmakers' minds at all levels and is not being observed. Particularly when they face serious economic and social difficulties, the Sejm and the Council of Ministers, therefore, at the time of approving general guidelines of monetary and credit policy of the banks, at the same time defined the credit preferences resulting from socioeconomic policy. First of all, they should concern themselves with priority in receiving credit.

Subsidies should have unconditionally and singularly a subjective character. They should be tied to concrete products, and not with their manufacturers. This system would have a favorable influence on creating the beginnings of competition. Because a subsidy can encourage a change of the structure of production and taking over of a product from those receiving a subsidy and who make it expensively. Maybe a subsidy should be subject to bidding, or it should be replaced by government orders?

Creditworthiness of enterprises should be evaluated more broadly than it has been done until now, it should involve not only its present activity but also its prospects for the future, periods of equal length with the multiyear plants. The credit system would thus become a more effective tool than it is now in enforcing better efficiency. The banks would be able to use a diversified interest rate, dependent on the client's "sound prospects."

The tax system should also be revised. It should be more selective and effacacious, it should guarantee that the budget gets undue profits. It would slow down uncontrolled price movement and would check the monopolists' schemes. The meaning of this for society is obvious.

Two more matters in conclusion.

First, already emerging occasionally earlier, pertains to the law on rehabilitation and liquidation of enterprises. This law is becoming a must and it should be binding not later than beginning in January of next year. There are too many decisionmakers' doors without it, enabling parochialism to sneak in. A need for introducing an antimonopoly law also arises.

The second matter does not concern the material sphere. Not without reason, was it said at the beginning of the discussion on reform that it is not only an economic operation, but a profound social process. Encountering a significant part of the managerial cadres that are demoralized by the system called "I direct and distribute," it cannot afford the system's underperformance, especially where money is involved. Otherwise the process of the economy's negative adjustment to the reformed system could become an avalanche destroying everything standing in its way.

An illustration of this point is in a way the answer to the question raised in the title. After all, nobody has folded.

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POLAND

LONG-RANGE ENERGY DEVELOPMENT OUTLINED

Energy Requirements Forecast

Warsaw ENERGETYKA in Polish No 3, Jul 82 pp 87-90

[Article by Eng Waclaw Fiszer, adviser to the chief inspector for energy management]

[Excerpts] The recent upsets of the national economy have revealed its great dependence on imported raw-material and coproduced deliveries, especially from the second payments area [capitalist countries]. Meanwhile, the current worldwide energy crisis has brought about basic changes in the correlation between the increase in total primary energy consumption and the increase in generated national income. These phenomena complicate the forecasting of the development of the domestic power industry.

A Forecast of Domestic Requirements for Electrical Power

The development of the domestic requirements for electrical power have a considerable impact on the amount of the total requirement for primary energy for the following reasons:

--the share of primary energy in electrical power production in the total domestic requirement now exceeds 25 percent.

--this share will increase considerably due to the more rapid worldwide increase in the electrical power requirement than in the total requirement for primary energy. This tendency is more prominent in countries that have a major shortage of hydrocarbon fuels and are able to substitute electrical power for these fuels. Poland is one of these countries.

Making use of an index of the flexibility of increases for electrical power requirements in relation to DN [national income] increases is not a valid method of assessing the increase in the requirements for electrical power, since gas fuels, liquid fuels and heat from central heating systems (in addition to electrical power) determine the degree to which the requirements for high-grade energy sources are met. High-grade energy sources are mutually interchangeable, especially in the fields of residential heating, water supplies for consumer use and food preparation. This justifies using the observed tendencies of increased requirements for electrical power in European countries.

Covering the Requirements for Electrical Power by Increases in Primary Energy

Brown coal and nuclear fuel are the major energy raw materials for the domestic electrical power industry that can ease the hard-coal balance, to a great degree.

It is assumed that brown-coal extraction (for domestic purposes) will increase from 33.3 million Mg [Mega-grams] 974 PJ [petajoules] in 1980 to 63 million Mg (1,850 PJ) in 1985 (due to an increase in extraction from the Belchatow and Lubstow beds), up to 87 million Mg (2,564 PJ) in 1990 (due to another increase in extraction from the Belchatow bed and an increase in extraction from the Turow-pillar bed under the Nysa), and up to 120 million Mg (3,500 PJ) in the year 2000 (due to an increase in extraction from the Szczercow, Cybinka+Gubin+Mosty, Babina-Zarki and Sieniawka III beds; and, alternatively, from the Legnica bed). More than 90 percent of the above increases in extraction are designated for the electrical power industry.

In the area of the nuclear power industry, it is expected that two power units of 440 MW each will be activated between 1989 and 1990

In accordance with a 1982 governmental decision, the construction of the nuclear electrical power plant Zarnowiec was begun. A contract was concluded for importing a net guaranteed power output of 1,000 MW from the Khmel'nitsky nuclear electrical power plant (in a 750-kV line to Rzeszow), with a utilization time equal to 6,000 h/a [hour/amperes]. By 1985, 2.4 TW·h [terawatts/hour] (440 MW) are to be obtained from this electrical power plant, and by 1988 and beyond, another 3.6 TW·h (600 MW) will be obtained.

Less than 40 percent of the planned gain of a power output of approximately 5,000 MW by 1990 (within the framework of CEMA coproduction) can be implemented at present, if we combine the results of the Zarnowiec nuclear electrical power plant and imported power from the Khmel'nitsky nuclear electrical power plant. Both the domestic fuel-power balance and the developmental trends of the worldwide power industry, including CEMA countries, demonstrate the need to step up the domestic construction of nuclear electrical power plants. Thus, a minimal program would include a yearly increase of 1,000 MW from 1991 to 1995, and 1,500 MW of power output yearly in nuclear electrical power plants (EJ) from 1996 to 2000, or 12,500 MW for the decade 1991 to 2000.

Table 5. A Forecast of the Long-range Increase in Gross Domestic Electrical Power Requirements [1]

Years	Percentage of average annual increase in requirements	Energy Requirement for the final year of the period, TW/hour
[2]		
1981-1982	1.8	117
1982-1983	4.3	122

1983-1985	5.0	135
1985-1990	5.2	174
1990-2000	4.2	263

1) The sum of gross production of domestic electrical power plants and energy import from the USSR (Khmel'nitsky). Energy export, which falls within the margin of error, is not included.

2) 1981 production, approximating a requirement of 114.9 TW/hour.

Thus, through 2000, there should be the guaranteed production of 80 TW/hour of nuclear fuel [(880 + 12,500)MW·6000 h], and together with the import from the Khmel'nitsky nuclear electrical power plant--86 TW·h, which corresponds to a primary energy requirement of 880 PJ (30 million tons p.u. [standard fuel]).

A hypothesis for covering the requirements for electrical power by primary energy is presented in Table 6. The table shows that there will be changes in the level of production in electrical power from hard coal in the public-utility power industry by comparison with 1980, namely:

--a production decline of 7.4 TW/h in 1985,
--a production increase of 10.5-7.4 = 3.1 TW/h in 1990,
--a production decline of 15-3.1 = 11.9 TW/h in 2000.

Given the assumed structure of development of the public-utility power industry, this means a decrease in hard-coal consumption for electrical power production in 2000 by comparison with 1980.

Table 6. A Hypothesis for Covering the Electrical Power Requirement from 1981-2000 With Primary Energy

Item	Coverage of increases, TW·h		
	1981-1985	1986-1990	1991-2000
from brown coal			
-increase in extraction from Belchatow and Lubstow	17	--	--
-attaining full production at Belchatow	--	15	--
-developing of the beds: Szczercow, Turow III, C+G+M1)	--	--	23
Furnace oil (to feed the fire)	0.4	0.4	--
Water power industry (from natural intake-output)			
-Ciechocinek	--	0.5	--
-Lower Wisla+tributaries	--	--	2
Nuclear electrical power plants:			
-import from USSR, Khmel'nitsky	2.4	3.6	--
-Zarnowiec, first stage	--	4.4	--
-Zarnowiec, second stage+Kujawy +non-localized	--	--	75
Industrial power industry	--	3	4

Conservation by restricting network losses	0.6	1.6	--
Total	20.4	28.5	104
from hard coal			
(135-122) - 20.4	-7.4	--	--
(174-135) - 28.5	--	+10.5	--
(263-174) - 104	--	--	-15

1) Cybinka + Gubin + Mosty; alternatively, Legnica I.

Table 7. The Forecasted Structure of Increases in Attainable Power Output Installed in the Public Utility Power Industry from 1981 to 2000

Electrical power and heat-generating plants	Increase in power output, MW 1981-1990	1991-2000
Belchatow: 12X360 MW	4,320	
Polaniec I (from No 4): 5X200 MW	1,000	
Polaniec II: 4X200 MW	800	
Opole: 6X360 MW	2,160	
Turow II: 2X360 MW	720	
Zarnowiec (pumped-storage): 4X170 MW	680	
Mloty (pumped-storage): 3X250 MW	750	
Hydro electric power plants (Ciechocinek)	150	
Zarnowiec, first stage (net power output)	800	
Import from USSR (Khmel'nitsky)	1,000	
Public utility electric power and heat-generating plants	1,900	2,500
Zarnowiec (second stage)+Kujawy		5,000
Nonlocalized		7,500
Electrical power plants using nonlocalized brown coal		4,000
Hydroelectric power plants (Lower Wisla) and pumped-storage plants (Sobel)		3,000
Total	14,280	22,000

The structure of these increases is presented in Table 7 above. It shows that electrical power plants already built or under construction will cover the increase in power output up to 1990. However, in order to achieve the needed results after 1990, it will be necessary to do more than merely complete the second stage of the Zarnowiec electrical power plant: research on and the siting of new electrical power plants will have to be intensified.

Forecast of the Covering of the Total Primary Energy Requirement

The hypothesized development of the electrical power industry as presented correlates with the forecast of the covering of the total domestic requirement for primary energy up to the year 2000. The increase in the primary energy requirement for electrical power production during the period under consideration can be covered partly by brown coal (38 percent), partly by nuclear fuel (60 percent) and the rest by other fuels and water power. With the increased requirement for primary energy by the entire public utility power industry, the hard-coal requirement for central heating purposes must also increase by comparison with 1980 levels. Moreover, it is possible to set in motion nuclear electrical power plants and high-capacity power plants before the year 2000.

Summary

1. The feasibility of the forecast moderate development of the total primary energy requirement depends upon the consistent implementation of energy programs in the domestic economy. Major importance in these programs is ascribed to endeavors concerned with the conservation of electrical power.

2. In the above hypothesis, the basic energy raw materials for covering the increased electrical energy requirement up to the year 2000 are: brown coal and nuclear fuel. The production of electrical power from brown coal should increase threefold over the 1980 level, while nuclear power plant production should cover approximately 75 percent of the increase in the domestic requirement for electrical power in the last decade.

3. The forecast increases in electrical power production from brown coal require the efficient mining of the Belchatow and Lubstow beds and the undertaking of the mining of the other beds in the last decade, namely: Szczercow, Turow III (the pillar under Nysa), Cybinka+Gubin+Mosty (or, alternatively, Legnica I). The location of these beds determine the location of the electrical power plants, and will have a considerable impact upon the configuration of transmission networks.

4. The process of the use of nuclear power should be intensified. Poland cannot be a backward country in this field among other European countries (there is the danger that we will even be backward compared with developing countries). A planned program for activating nuclear electrical power plants through the year 2000 should be implemented with consistency. Meanwhile, planning and siting efforts and ensuring equipment deliveries, construction potential and specialized cadres are all critically delayed.

5. The possibilities of accelerating the development of nuclear electric power and heat-generating plants (nuclear heating plants) before the year 2000 are very important. This type of new heating source should be located in regions that are especially burdened ecologically (large cities, the GOP [Upper Silesia Industrial District] and other industrial regions). At the same time, these sources should be built not only to develop central heat-generating systems, but also to open up the power output of old electric power and heat-generating plants (for example, the Zeran plant, opened in 1952).

6. Separate analyses and efforts must be made to ensure supplies of nuclear fuel. The optimization of the fuel cycle related to the choice of reactor types in the course of their introduction, as well as the storage and reprocessing of spent fuel, are of special significance.

7. The construction of new hard-and brown-coal mines and electrical power plants requires at least 10 years (from the idea stage through the completion stage). The period up to the year 2000 is too short to enable the defining of strategic concepts for the development of domestic fuel-energy industry management.

Further studies (up to the year 2020) must take into consideration the following basic changes in domestic fuel-energy industry management:

--hard-coal extraction will probably reach maximum level of 250 million Mg per year, and brown coal--120 million Mg per year;

--brown coal beds will be exhausted in the Konin-Turok region and in Turoszow; transmission network junctions and favorable water conditions (in the Konin region) will create premises for locating nuclear electric power plants there;

--the use of unconventional energy sources will have some slight impact on the domestic energy balance;

--the introduction of electric drive into automation is likely, shifting the peak-hour burden in the electrical power system to nighttime periods,

--the increases in electrical power and centralized heating production will have to be based in full on nuclear fuel, especially since the revaluation of coal as a valuable chemical industry raw material will increase.

Energy Production, Consumption

Warsaw ZYCIE GOSPODARCZE in Polish No 35, 19 Sep 82 p 6

[Article by Dr Habilitatus Jan Danielewski, docent in the Institute of Economic Conditions and Foreign Trade Prices]

[Text] The NPSG [National socioeconomic plan] assumptions for 1983 to 1985 and the preliminary forecast for the next 5-year period lead us to reflect whether the power sources available to our country during this period will suffice for the attainment of the planned level of production and national income.

Economic development is not possible without a corresponding increase in primary energy consumption. The recently launched "zero growth" concept, meaning that essential economic growth is possible without an increase in energy consumption, should be treated with caution. The truth is that 60 to 70 percent of the primary energy contained in energy sources used by consumers is wasted in processing and in the course of terminal power consumption as a consequence of the very low factors of efficiency of the apparatus that uses it. There are practical as well as theoretical possibilities for considerably increasing the efficiency of this apparatus; the only hitch is that enormous funds are needed for this. Thus, given our conditions, let us imagine how much it would cost to produce a completely new generation of turbines for our electrical power plants, and then to exchange those already in operation as well as other equipment in all electrical power plants?

Still 9 years have passed since the great price jump in crude oil. What has our automotive industry done to reduce per-unit fuel consumption in domestic private automobile and heavy production? Nothing, or even less than nothing, as the startup of production of the Polonez shows. What has this industry done to increase the durability of its products? It is not merely a question of direct power conservation, but also of energy used to make materials for production and finished products. There are many such examples; however, if we are to speak of energy-conserving economic development we must seriously begin to conserve energy. This means increasing management efficiency in every sector. Energy conservation is likewise the full utilization of fixed assets, especially fixed assets for production--of which everyone is somehow too ashamed to speak.

If we compare the published assumption of Poland's economic development up to 1990 with its potential for extracting and importing energy sources, we conclude that these assumptions are realistic from the viewpoint of energy supply. While they anticipate major energy conservation, they have none of the zero growth fantasies. Perhaps this approach attests to the maturity of our planning apparatus and to its abandonment of fertile imaginzation in favoring of respect for reality. It is still too early for eulogies; one counts chickens in the fall. Let us get back to the subject.

In the past, the ratio between primary energy consumption and Poland's generated national income in constant prices was the following:

Our electrical energy and imported energy converted into a proportion that more or less corresponds to the fuel consumed in heat-generating electrical power plants in generating 1 kilowatt-hour of electrical power.

Since we are discussing the future, we cannot devote too much analysis to the past. However, Table 1 shows the increase in the energy-intensiveness of our economy after 1976. Why did this happen?

Table 1. Primary Energy Consumption from 1960-1981 Compared with Generated National Income

Year	Primary energy consumption in millions of tons of standard fuel	Generated national income in constant prices from 1 Jan 1977	Primary energy consumption in kg of standard fuel per 1,000 zl of national income in prices from 1 Jan 1977
1960	75.9	419.3	180.8
1970	117.6	945.2	124.4
1975	149.0	1,506.7	98.9
1976	154.6	1,605.9	96.3
1977	165.1	1,685.9	97.5
1978	170.1	1,741.2	97.7
1979	174.7	1,701.4	102.7
1980	179.2	1,599.3	112.0
1981	165.2	1,386.2	119.2

Source: my own calculations based on GUS [Central Office of Statistics] statistical yearbooks and bulletins. 1 kg of standard = 7,000 Kcal (i.e., 1 kg of good hard coal).

I believe that generally the disordered state of the entire economy and the overall decline of its efficiency (labor productivity, the utilization of production capacity, the decline in product quality and the like) from 1977 to 1979 (and after) caused a considerable decline in our steel imports (approximately 3 million tons in 1976) and in our imports of other energy-intensive goods. This had a definite impact upon the increase in the energy-intensiveness of industry. However, let us leave our in-depth analysis of the past for another occasion, especially since one may have serious reservations about calculating the growth rate of the national income in constant prices. We have need of the above comparison only to see what our planners anticipate in this field in the coming 8 years.

What about the energy situation? There are no detailed figures in the document, but it is a very telling assertion that by 1990 we will not be able to increase hard-coal extraction, because the investment outlays which could bring about the economical management of this extraction barely cover the expected decrease in extraction capabilities. On the other hand, brown-coal extraction is expected to increase from 38 million tons in 1982 to 59 million tons in 1985, and 75 million tons in 1990. I believe that Poland's energy balance in 1990 will shape up in the following way:

Added explanations are needed regarding the assumed import and export volumes.

First, the turnover in electrical power is not considered, given the unprofitability of exporting it and the compensation of its exchange with foreign countries. Second, it is assumed that turnover with foreign countries in the area of petroleum products will be compensated due to the unprofitability of processing crude oil designated for export in Polish refineries. Third, a considerable increase in the import of natural gas from the USSR is expected (this transaction must be finalized). Fourth, a very moderate increase in the import of liquid fuels is expected (by comparison with the maximum reached in the import of liquid fuels is expected (by comparison with the maximum reached in 1980--a total of 29.7 million tpu [tons of standard fuel] made up of 16,347,000 tons of crude oil and 4,406,000 tons of petroleum products) given the payments difficulties of Poland and the continued price increases of these products on the CEMA market. At the same time, the possibility of importing liquid fuels from the USSR may decrease, since the growth rate of crude oil extraction in that country has declined considerably, amounting to less than 0.5 percent in the first 7 months of 1982.

The anticipated primary energy production in Poland should be 12.2 percent (lower variant) or 4.8 percent (higher variant) lower in 1990 than the historical maximum of 1979 (183.9 million tpu). On the other hand, the use of the sources of primary energy in 1990 would be only 91.6 percent (lower variant) or 104.9 percent (higher variant) of the maximum level in our history (in 1980) of 179.2 million tpu.

Table 2. Production, Import, Export and Presumed Energy Consumption in Poland in 1990

Energy source	In standard units	Conversion factor	In millions of tons of standard fuel
Production			
Hard coal (in millions of tons)	170-180	0.82	139.4-147.6
Brown coal (in millions of tons)	70-75	0.257	18.0-19.3
Crude oil (in millions of tons)	0.5-0.6	1.43	0.9-1.2
Natural gas (in billions of cubic meters)	2.1-3.5	1.17	2.5-4.1
Primary electrical energy			
a) from hydroelectric plants (in billions of kWh)	2.4-3.1	0.37	0.9-1.2
b) from nuclear electrical power plants (in billions of kWh)	0-5.3	0.37	0.0-1.9
Combined production			161.5-175.0
Import			
Hard coal (in millions of tons)	1.0	1.0	1.0-1.0
Crude oil and petroleum products (in millions of tons)	15-22	1.43	21.5-31.5
Natural gas (in millions of cubic meters)	5-10	1.2	7.2-12.0
Combined import			29.7-44.5
Export			
Hard coal (plus coke) (in millions of tons)	30-55	0.9	27.0-31.5
Combined export			27.0-31.5
Presumed domestic consumption (production + import - export)			
Solid fuels			131.4-136.4
Liquid fuels			22.2-32.4
Natural gas			9.7-16.1
Primary electrical energy			0.9-3.1
Total consumption			164.2-188.0

Source: Energy forecast "Polska 2020," GIGE [Main Inspectorate for Energy Management], OBRGE [Research and Development Center for Energy Management?], Katowice 1982 (authors: J. Michna, M. Baran, L. Bednarz, J. Dembowski, J. Filipowicz, K. Mosakowski, R. Ney, A. Szpilewicz, I. Wojtulewicz, consultant: K. Kopecki) and my own estimates.

Comment: I assume that in 1990 we will have the good fortune to have our first nuclear electric power plant in Poland with a capacity of 2 X 440 MW, which in 6,000 work hours annually can produce 5.28 billion kWh.

Unfortunately, the structure of fuel consumption in 1990 will not change significantly in Poland. The share of solid fuels in this consumption was 76.8 percent in 1979, 77.0 percent in 1980 and will be 80 percent (lower variant) or 72.6 percent (higher variant) in 1990. No other country in the world, except China, has such an archaic structure of primary energy consumption (i.e., such a high share of solid fuels)! It is not a question of "archaism" per se, but of the fact that the economic effect of every consumed ton of liquid fuels, natural gas and primary electrical power is considerably higher than the effect of the caloric conversion factors of these fuels into standard fuel by comparison with hard and brown coal.

Moreover, it should be noted that in 1990 the supply dependence of our economy on imported sources of energy will increase. If in 1970 the ratio between domestic primary energy consumption and production was 100:115, in 1975 it was 100:98 (in that year we became net importers of energy!), then in 1990 it will be 100:98 (lower variant) or 100:92 (higher variant).

The document under consideration shows that Poland's generated national income in constant prices (calculated here in 1 January 1977 prices) should be in 1985 (in billions of zlotys)--1,439.4 (variant I); 1,487.3 (variant II) and 1,519.3 (variant III); in 1990, it should be 1,695.3 (variant I); 1,887.2 (variant II) and 1983.1 (variant III). In other words, only according to the most favorable variant will we reach the 1975 national income level in 1985, and according to the least favorable variant, in 1990 our national income will barely exceed the 1977 level. This is important for assessing our requirement for primary energy during the period covered by the draft plan.

If we divide the expected amount of primary energy consumption by the expected amount of the national income, we arrive at the indispensable level for the planning period of the index of energy-intensiveness of the national income given in table 3.

Table 3. Energy-intensiveness of the Polish National Income in 1990 (in kilograms of standard fuel per 1,000 zlotys of generated national income in 1 January 1977 prices

Variants of energy consumption	Variants of national income		
	I	II	III
Lower variant	96.9	87.0	82.8
Higher variant	110.9	99.6	94.8

The preceding estimate shows that with the lower variant of primary energy supply, it will be possible to reach the 1990 national income only in the amount corresponding to variant I of the draft plan; with the higher variant of energy supply, it will be possible to reach a national income level even higher than that projected by variant II; however, the attainment of the variant III level appears to be unrealistic. In this way, I assume that in the course of 8 years we will not be able to reduce the energy-intensiveness of our national income below the 1975-1977 levels (i.e., in the range of 98 kg pu per 1,000 zlotys in 1 January 1977 prices). I am aware that this will still mean a reduction in the present energy-intensiveness of our income by approximately 20 percent. While greater conservation is possible, I doubt that it can be attained during the next 8 years under our present conditions. Nonetheless, we should do everything possible in this direction.

The estimates show that the published NPSG draft plan up to 1985 and up to 1990 is feasible. This is all the more so, since this draft correctly expresses the important role of energy: "The fuel-power industry situation is taking on the proportions of a major economic problem of the 1980's." The draft points out the need to increase the efficiency of using metallurgical materials in industry and building construction, to increase the share of quality steel in metallurgical production and to increase the share of secondary raw materials in the total consumption of raw materials by industry. Of course, these are merely a few endeavors for significantly conserving energy. Of special importance is the need for generally raising production quality in all branches of the processing industry--the major source of energy waste, in my opinion.

Like other CEMA countries, Poland's energy-intensiveness of its national income is 1.5 to 2.0-fold higher than European capitalist countries (see my article in the June 1982 issue of SPRAWY MIEDZYNARODOWE). This comparison demonstrates the potential for major power conservation in our economy. The need for such conservation will also exist after 1990, since little will change in our country on the supply side of fuels and energy by that time. It will take a tremendous effort to ensure the systematic improvement of the Polish standard of living, given the insignificant increase in the supply of energy sources. I believe that this will not take place without very basic changes in our life style.

The slowing of the development of large cities (which represent a very energy-intensive life style) can contribute to a decline of the energy-intensiveness of the national income. Is it not better to build new industrial plants in small towns, where it is not necessary to create a costly municipal transportation network, where large-panel municipal construction is not needed, where the problems of household waste recovery should not exist (since wastes are used to feed poultry and rabbits or to fertilize household gardens and the like), where every crew member would appreciate his work position better than workers in large cities, where there are not enough workers and broad possibilities for choosing a job? Of course, these are random considerations; however, they are worthy of discussion and should be studied.

In general it is a question of our living well and making maximum rational use of our limited natural resources, with a far-reaching sense of wisdom.

Power Transmission Line Construction

Rzeszow NOWINY in Polish 4 Aug 82 pp 1, 2

> [Text] Moscow (PAP)--Editor Wladyslaw Knycpel writes: The construction of a 750-kV electric power transmission line, to lead from the Khmel'nitsky nuclear power plant in the Ukraine to Rzeszow has begun with the laying of the first cubic meters of concrete at the foundations of the poles. Despite the fact that the construction of this line is to be completed in 1984, it is already designated on the map at the dispatching point of the Iwowenergo junction--an important element of the international Mir energy system, which has existed for 20 years. This system plays an important role in the fuel-energy balance of European CEMA states.

It is noteworthy that the understanding concerning cooperation in the building and power utilization of the 750-kV transmission line from the Khmel'nitsky electrical power plant to Rzeszow, and the construction of a 750-kV substation in Rzeszow was signed during the 89th meeting of the CEMA Executive Committee at the end of March 1979. The line will be about 400 km long, with the Soviet side building the longest section, up to its border with Poland.

At this same meeting, the CEMA Executive Committee, Poland, the CSSR, Hungary and the USSR signed a general understanding concerning cooperation in construction of the Khmel'nitsky nuclear electrical power plant on the territory of the Soviet Union. This power station will have a power output of 4,000 MW, of which Poland will receive 1,000 MW, or 6 billion kWh of electrical energy a year. In return for our share in implementing the agreements, we should receive our first current by the end of 1984. The production of the Khmel'nitsky power station will increase continually until it reaches its projected power output. The agreement encompasses a period up to the year 2003.

The construction of the Khmel'n itsky electrical power plant is now in full swing. Polish construction crews, installers and transport crews, along with service personnel, for a total of 1,320 persons, are working on the plant. Our excavators, bulldozers and cranes are also there. Polish crews are likewise constructing various structures accompanying the electrical power plant as well as living structures. Our specialists are now preparing for their work later on the main power unit in the area of building-construction work. The cooperation of Polish workers with Soviet crews and investors is moving along well.

Our crews are also working on the construction of nuclear electrical power plants in Kursk (920 persons) and Smolensk (1,300 persons), where in addition to their work on accompanying structures, our specialists are implementing building-construction work on the main power unit.

The experiences gained by Polish crews in building atomic power plants on the territory of the USSR will undoubtedly be extremely valuable and necessary in the building of our first atomic electrical power plant, Zarnowiec, in Gdansk Voivodship. This electrical power plant, built in cooperation with the USSR, will be composed of four power units with an output of 440 MW each. The first is to be put into operation between 1988 and 1989.

Poland is also taking part in the implementation of an agreement signed in 1979, concerning the multilateral international specialization and coproduction of machinery and equipment for atomic electrical power plants. Each country (including Poland) is producing a specific group of units and equipment for atomic power plants. The production of a group of machinery and equipment indispensable for 440 MW reactors has also been set into gear. At the same time, special attention has been paid to the reliability and safety of the atomic electrical power plants.

The CEMA states have prepared a broad program of development for atomic energy. The planned power output of atomic power plants up to 1990 is to reach 37,000 MW (excluding Soviet plants). In the USSR, from 1981 to 1985, atomic power plants with a combined power output of 25,000 MW are to be put into operation.

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